

NEW PLANTS FROM CRATER MT., PAPUA NEW GUINEA, AND AN ANNOTATED CHECKLIST OF THE SPECIES

W. TAKEUCHI

*Botanical Research Institute of Texas
c/o Lae National Herbarium and
Papua New Guinea Forest Research Institute
P.O. Box 314, Lae, PAPUA NEW GUINEA*

ABSTRACT

An exploratory survey of the Crater Mt. Wildlife Management Area (CMWMA) has revealed the presence of at least 1,200 vascular plant taxa within the 2,700 sq. km reserve. Included among the findings are several new species and a significant number of distributional records. Three novelties are formally described and illustrated. The new species are *Glochidion beehlerii*, *Jasminum pipolyi*, and *Psychotria matambuai*. An annotated checklist of the collections is also provided.

The botanical documentation for the CMWMA is one of the most substantial for any locality in Papuaia. The preservation status and floristic richness of surveyed communities are very high, comparing favorably with the best sites in Papua New Guinea. Continued application of the ICAD (Integrated Conservation and Development) strategy is recommended for the subject area.

ABSTRACT (TRANSLITERATED JAPANESE)

Crater zan yaseiseibutu kanri chitai chousa niyori 1,200 ijou no ikansoku (kansoku) shokubutsu bunrui guntai no sonzai ga 2,700 heihou kilometoru inai de kiroku shoumei saretu. Hakken saretamono no nakani fukumareteirumono wa kazukazu no shinshu to soutou naru kazu no mezurashi ishu shokubutsu to bunpukuiki kiroku dearu. Mittsu no mezurashii shokubutsu wa seishiki ni kijyutsu oyobi zukai ni yori shimesareta. Shinshu wa *Glochidion beehlerii*, *Jasminum pipolyi*, soshite *Psychotria matambuai* dearu. Chushaku tuki no shushu butsu ichiranhyou mo futai sareru.

Crater zan yaseiseibutu kanri chitai no shokubutugakuteki bunken wa Papuasian chihou nitotte motomo kuwashi monono hitotus de aru. Chosa saretu shokubutsu guntaku no hozonjotai oyovi shokubutussou no yutakasa wa soutou ni takaku, Papua New Guinea no sairyou na basho ni masaru hododearu. Kadai to sareteiru chiiki ni taisuru tougouteki hogo oyobi kaihatu doryoku wo zokkou surukoto ga shourie sareru.

INTRODUCTION

Papua New Guinea's (PNG) biotic environments are a focal point for numerous specialist studies, in large part due to the extraordinary diversification and endemism of its flora. In an effort to preserve this biota, conservation initiatives in PNG have been recently defined and prioritized by a number of

multiagency evaluations, of which the most consequential are the Conservation Needs Assessment Report (Beehler 1993), and the Papua New Guinea Country Study on Biological Diversity (Sekhran & Miller 1995). The Crater Mt. Wildlife Management Area (CMWMA) is listed by these appraisals in their site portfolio of localities with critical floristic or biodiversity significance (Johns 1993: 26; Sekhran & Miller 1995: 121). Despite its pristine condition and high-value biotic estimates, little information on the CMWMA's botanical resources had previously been available. A floristically-oriented census was thus initiated in 1997 to acquire data for determining the diversity and population status of CMWMA plants.

SITE SUMMARY

The 2,700 sq. km territory of the CMWMA (Fig. 1) encompasses a mosaic of floristic environments ranging from alluvial communities at 150 meters elevation to montane cloud forest at 2,100 meters. Except for scattered and localized seres resulting from subsistence agriculture, the forest formations are primary. Life zones from the lowland, premontane, and montane contours are fully represented within the project boundaries. Surveys conducted to date have examined alluvial swamp forest, lowland everwet forest, premontane foothill forest, and stunted montane forest. Within the premontane and montane zones, there are various topographic-edaphic subunits with distinctive floristic assemblages and taxonomically characteristic seral sequences. The CMWMA also includes aquatic habitats represented by lakes, oxbows, springs, permanent streams, and waterfalls. The various elements collectively comprise an unusually comprehensive habitat suite, all located within an administratively cohesive conservation unit accessible only by air.

GENERAL DISCUSSION

The following account of plant resources in the CMWMA is based on intensive collections from a two-year period of exploration. Forests near the villages of Haia and Maimafu served as principal venues for the botanical survey.

In Appendix 1, plant taxa are referenced by the specimen voucher or other source for the occurrence claim. Nearly all registers are supported by fertile collections made in multiple sets for international and local distribution. The Lae National Herbarium (LAE) is the repository for unicates, first sets, and holotypes. Recipients of duplicate sets have been designated in accordance with LAE's exchange protocols, on which Kew (K), Rijksherbarium (L), and Harvard (A), are the primary receiving institutions. Residual sets will be allocated by LAE under their auspices, in compliance with previous agreements made with our PNG host organization.

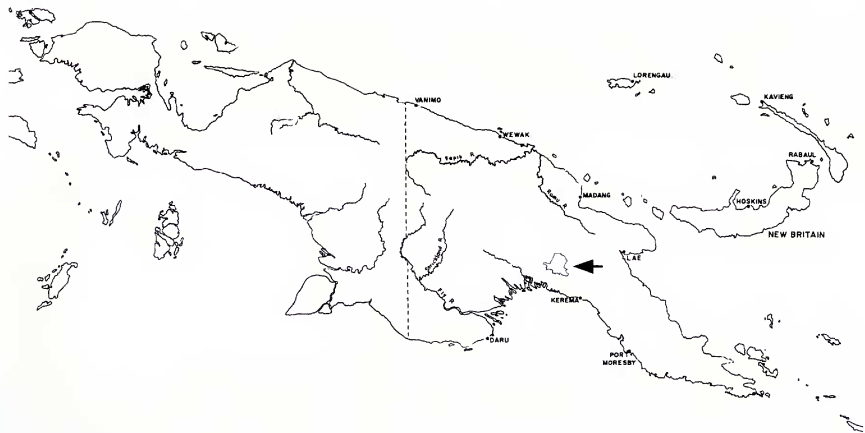


FIG. 1. Island of New Guinea. Arrow: Crater Mt. Wildlife Management Area.

Collections were field-preserved with 70–75% isopropyl alcohol and transported in plastic wrap to facilities of the PNG Forest Research Institute (PNGFRI) for subsequent processing. Taxa encountered only in sterile condition or otherwise not obtainable, were enumerated as a sight record if the plant was unequivocally known to the writer (viz. 'SR' in Appendix 1). Whenever possible, such sightings are referenced against LAE collections made by other botanists within the Purari drainage; primarily by the former Department of Forests or by CSIRO botanists L.A. Craven and/or R. Schodde. Other collector citations are provided in Appendix 1.

The survey's original intention of developing a baseline census along the CMWMA's full elevational gradient remains out of reach. In view of the 2,700 sq. km area of the reserve, this objective is an ambitious one under any scenario. Although the total species content of the CMWMA remains conjectural, establishing an estimate is still attainable with respect to checklisting the plants likely to be encountered by researchers working in the area. No empirical measure has yet been developed for the total number of plant species enclosed by Papuasian habitat gradients, whether or not assessed on vertical or horizontal lines, though Johns (1993: 26) estimates 2,000+ taxa for the Crater Mt. area. The Johns' estimate appears reasonable and is probably conservative. But if accurate, this should mean that the present itinerary has yielded up to 60% coverage of the CMWMA's total taxonomic content.

Of the floristic environments examined thus far, the forests around Maimafu have received the most complete attention. As the CMWMA's high-elevation antipode, the Maimafu area was expected *a priori* to have the lowest richness and to be the easiest to achieve collections saturation. Mid-montane stations like Herwana are not included in this summary, but since such sites are ecologically interposed between Haia and Maimafu, many of its plants are probably already checklisted by existing collections. The conspicuous lacuna is the alluvial formation represented by Wabo and comparable sites at the CMWMA's low elevations, where floristic documentation is still generally inadequate. The largest potential advances toward a comprehensive understanding of the CMWMA's flora will be made through critical examination of the lowland alluvial zone, notwithstanding the earlier work done by LAE and CSIRO in the Purari drainage.

A salient aspect of general appraisals of the Papuasian flora is the recognition of a remarkably diverse orchid component with more than 2,000 species (Schlechter 1911–1914, Johns 1993) and the existence of a comparably rich complement of ferns (Parris 1974). Orchidaceous and pteridophytic elements should normally peak in montane forests like Maimafu, but this has not been demonstrated by the survey because of the unfortunate circumstances imposed by the el Niño disturbance. The CMWMA was severely impacted by the recent drought, with considerable losses noted among epiphytic plants.

Enumeration of orchids, ferns, and other herbs was severely preempted. Because these assemblages are typically among the richest groups in the Papuanian montane zone, it is certain that the survey coverage was less comprehensive than if a comparable evaluation had been conducted under the conditions usually prevailing. In comparison, fruticose and phanerophytic plants were less affected by drought and responded to the resumption of rainfall with mass flowering and fruit production. The woody plants are thus better represented in the expedition gatherings.

The checklist in Appendix 1 incorporates results from earlier surveys in the Purari basin, conducted during the 1970's by CSIRO and LAE botanists. The LAE gatherings were made primarily in the Wabo area by what was then the Department of Forests, and were part of the LAE institutional number series. The CSIRO sets originate mainly from the lower part of the drainage bordering the CMWMA proper, from areas subject to the same habitat and forest conditions as are present at Pio-Wabo. These latter collections were more extensive than the LAE survey and are numbered under L.A. Craven and R. Schodde's personal number sequences. The cumulative CMWMA checklist presently includes 167 vascular plant families, 592 genera, and ca. 1,200 morphospecies, but it is obvious that an undetermined number of taxa remain unrecorded.

On a comparative percentage basis, the low elevation ecosystem at Crater Mt. is still unexplored and likely to reward future investigators with a disproportionate number of discoveries. It can be noted in this connection that the Maimafu collections consist largely of taxa already well-documented from the Highlands region. The montane affinity of the CMWMA is clearly with the general Highlands flora. However from the status of the Central Ranges as a floristic barrier, it can be surmised that lowland forests of the CMWMA should contain peculiarized and endemic elements, as has been shown by the novelty value of the CSIRO collections from low elevations.

DESCRIPTIONS OF NEW SPECIES

EUPHORBIACEAE

Glochidion beehlerii Takeuchi, sp. nov. (Fig. 2). TYPUS: PAPUA NEW GUINEA.

CHIMBU (SIMBU) PROVINCE: Crater Mt. Wildlife Management Area, E of Haia village, hill forest with some anthropogenic disturbance, 6° 43' S, 145° 00' E, 775 m, 15 Mar 1997 (fr), W. Takeuchi 11,796 (HOLOTYPE: LAE; ISOTYPES: A, K, L).

Arbor mediocris, circiter 15 m alta, habitu caulifloro, ramulis teretibus. Folia (matura) fere ovata vel elliptica, usque 17.5 cm longa, 8 cm lata. Capsula breviter obovato-pyriformis, 10–15 mm longa, 14–18 mm lata.

Subcanopy tree, 15 m height. Stem unbuttressed, outer bark pale brown, not furrowed, slash pinkish-red, wood dense, straw. Branchlets slender, weak, terete, distally fractiflex, indumentum hirtellous, brunneous, harsh. Stipules

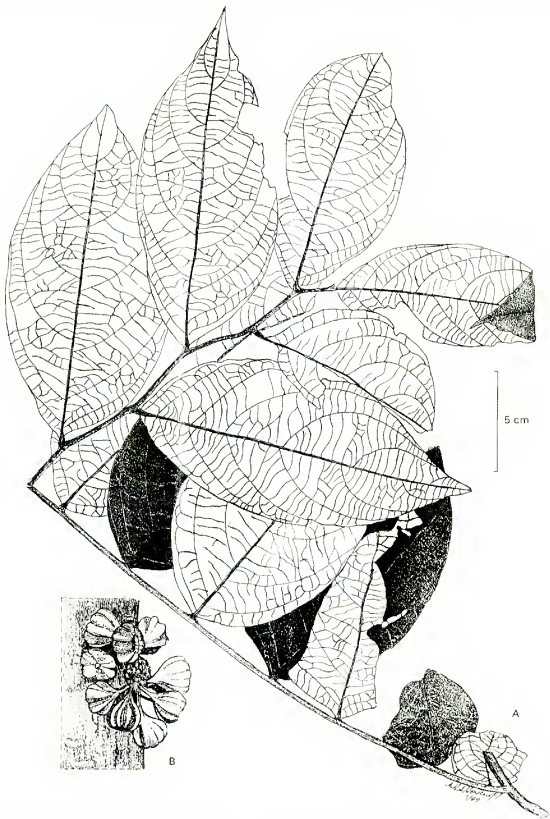


FIG. 2. *Glochidion beeblerii* Takeuchi, sp. nov. A. Branchlet. B. Fruit cluster on main stem. Drawn from holotype by N.H.S. Howcroft.

linear-acuminate to subulate, caducous or persisting through several nodes, typically 3.5–4.0 mm × 0.3–1.0 mm, hirtellous. *Leaves* alternate, distichous, decrescent on the branch, the lower ones orbicular-subcordate, 3.5–5.0 cm wide, acroscopically with the leaves ovate and ultimately elliptic, to 10.5–17.5 cm × 5–8 cm; blades thin-coriaceous or papery, sub-bullate, bichromatic, adaxially dark green and glabrescent, abaxial surfaces strikingly blue-green glaucous and with densely hirtellous nervation, larger blades gradually acuminate, margin entire, base equal and obtuse; venation pinnate, laterals 4–7 antorsely directed pairs, arcuate, closing with commissural loops or not, crossing nerves subscalariform, major veins prominulous above, more raised beneath, reticulum ventrally obscure or invisible, dorsally manifest, areoles pulverulent; petiole 3–4 mm long, slightly swollen, articulated at base. *Inflorescence* not seen. *Infructescence* cauline from base of trunk, arranged in congested hemispherical clusters on moundlike eruptions of the wood. *Schizocarp* obovoid, pyriform, or depressedly globose, solitary or several together on a short ramification, mature fruits 10–15 mm × 14–18 mm, 8–9 ribbed, 1–2 mm stipitate or not, exterior surfaces subappressedly puberulous, rather hyaline, soft pink in vivo, summit broadly recessed and centrally pitted, style column deciduous, not seen; fruiting pedicel concolorous with exocarp, 2–12 mm long, puberulent; calyx persistent, 6-partite, sepals lanceolate, 2–3 mm × 0.5–1.25 mm, laxly hirtellous. *Seeds* 2 per cell, enveloped with a smooth orange ariloid.

Distribution and ecology.—*Glochidion beehlerii* is apparently a mid- or later-seral species in forest regrowth. It is locally common at the type locality but has thus far not been collected elsewhere. The ripe fruits are said to be eaten by cassowaries.

Etymology.—The new binomial recognizes Dr. Bruce Beehler, a noted ornithologist and frequent contributor to our knowledge of Papuanian natural history. Dr. Beehler was formerly a senior ecologist for Conservation International and is currently the Director for Environmental Conservation at Counterpart International.

PARATYPE: PAPUA NEW GUINEA. CHIMBU (SIMBU) PROVINCE: Crater Mt. Wildlife Management Area, vicinity of Haia, near the Wara-oo streamcourse (first river E of Mt. Widlau), alluvial forest, 6° 43' S, 145° 00' E, 640 m, 30 Sep 1996 (fr), *W. Takeuchi* 11,303 (BRIT, LAE).

Glochidion beehlerii will not enter Airy Shaw's (1980: 92–96) key because of the cauliflory, a condition previously unknown for Papuanian representatives of the genus. There are two cauliflorous species from western Malesia (*G. oxigonum* Airy Shaw from the Moluccas, and *G. cauliflorum* Merr. of the Philippines, cf. Airy Shaw 1969: 12), but the present taxon is incompatible with either one.

The new *Glochidion* produces large clusters of pyriform fruits at the base of the trunk. Except for the fructification, it is superficially similar to *G. caloneurum* in overall appearance.

OLEACEAE

Jasminum pipolyi Takeuchi, sp. nov. (Fig. 3). TYPUS: PAPUA NEW GUINEA.

BORDER OF CHIMBU (SIMBU) AND GULF PROVINCE: Crater Mt. Wildlife Management Area, alluvial forest near Pio River, 6° 47' S, 145° 02' E, 440–460 m, 23 Mar 1997 (fl, fr), W. Takeuchi 11.866 (HOLOTYPE: LAE; ISOTYPES: A, K, L).

Inter congenericis Jasmino Papuasiae differt fructus maximus, cocco usque 35 mm diametro. Foliis trifoliolatis et glabris, inflorescentiis lepidotis.

Sprawling suffrutescent, or scandent vines. *Stems* terete, glabrous, glossy green, inermous, virgate, without exudate. *Leaves* opposite, exstipulate, epunctate, entirely glabrous, pinnately trifoliolate, very rarely unifoliolate but then with an articulated petiole; rachis and petiolules green, adaxially sulcate; leaflets induplicate, coriaceous, adaxial surfaces dark green nitid, abaxially medium green, apex gradually acuminate, margin closely reflexed, base cuneate or rounded, lateral blades generally lanceolate, 6.5–9.0 cm × 1.75–3.0 cm, terminal blades elliptic, 8–12 cm × 2.5–5.0 cm; venation pinnatifid, midrib channelled above, prominent beneath, laterals 5–8, thin, plane or prominulous, undersides with domatia-bearing axils, the domatia distinctly immersed, crateriform, bearded, reticulum lax and irregular, dried leaves typically developing characteristic indentations along nerves; petioles 12–23 mm long, concolorous with stems, not grooved. *Inflorescence* terminal or from subapical axils, cymose, monochasial or more often dichasial, obliquely ascending, the larger ones paniculiform and leafy, to 17 cm length, all axes peltately squamulate, bracts linear, to 6.5 mm long, persistent, granular, pedicels 4–7 mm long, gradually thickened distally, weakly constricted at the calyx. *Flowers* (rehydrated measurements) bisexual, brevistylous, heterostyly not seen; calyx funnelform, 2.0–3.0 mm long (exclusive of teeth) to 2.5 mm wide, slightly accrescent, light green, tube glabrous, limb 5–6 denticulate, obscurely fimbriate, denticulations linear-subulate, 0.2–1.0 mm long; corolla salverform, imbricate, white, entirely glabrous, obtuse in bud, tube 10 mm × 2.0 mm, costate, laxly tuberculate at first, lobes 5 sometimes 4, elliptic-oblong, 6–8 mm × 3–5 mm, mucronulate; androecium included, stamens 2–3, adnate to tube 2.5 mm from its base, filaments 0.5 mm long, anthers oblongoid, 3.5 mm long, connective inconspicuously apiculate; gynoecium glabrous, superior, 1 mm height, ovary undulate at the summit, style 0.5 mm long, weakly compressed and tapered, stigma punctiform, presented below the filaments. *Berry* geminate (aberrantly with cocci 3 or 1), lobes rounded, monospermous, 31–35 mm diameter, connate for ca. 20 mm, exocarp very smooth, nitid, glabrous, hyaline, pearly white with suffused green mottling, pericarp pulpy, greenish within. *Seed* white, hollowed.

Distribution and ecology.—Diffusely spread and locally frequent at the type locality. Conspicuous in edge situations along streambanks and forest margins but also seen in otherwise closed forest environments.

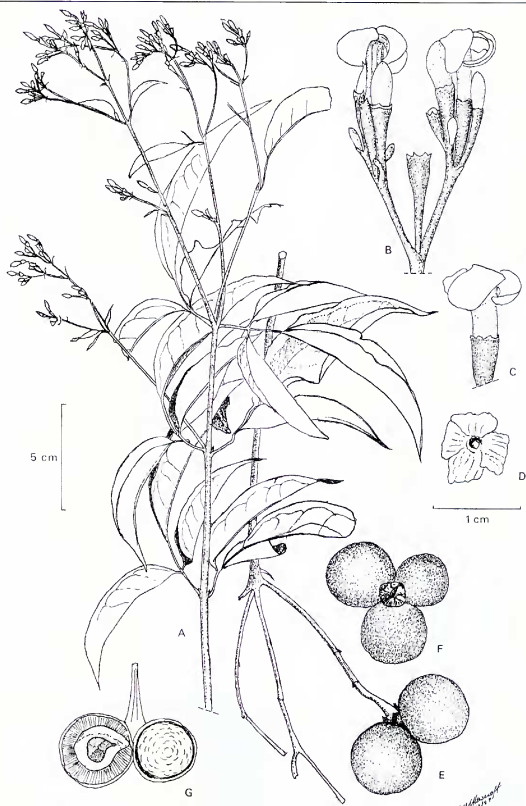


FIG. 3. *Jasminum pipolyi* Takeuchi, sp. nov. A. Habit of flowering plant. B. Dichasium. C. Flower from side. D. Flower, distal view of limb. E. Infructescence habit, with typical bilobed fruit. F. Berry, aberrant trilobular form. G. Fruit in cross-section. Drawn from holotype by N.H.S. Howcroft.

Etymology.—The new binomial recognizes John J. Pipoly III, a specialist in Myrsinaceae and Clusiaceae. John Pipoly is a colleague and Head of Floras at the Botanical Research Institute of Texas.

Malesian *Jasminum* have been checklisted by Kiew (1994) with 9 species accepted for Papuasia. Lingelsheim's outdated key (1928: 18) is still the only one extant.

Fruiting specimens of *Jasminum pipolyi* are immediately distinguished by the exceptionally large fruits, which are strikingly translucent mottled. Also characteristic is the combination of squamulate inflorescence and glabrous, trifoliolate leaves which are crinkled along nerves when dried.

RUBIACEAE

***Psychotria matambuai* Takeuchi, sp. nov. (Fig. 4).** **TYPUS:** PAPUA NEW GUINEA.

EASTERN HIGHLANDS PROVINCE: Crater Mt. Wildlife Management Area, ridge complex above Abegarema village on the crestline to Mt. Mopahveh, short-stature montane forest, near GPS coordinates 92802843 N, 28240 E, elev. 1,768 m, 02 Aug 1998 (fl, fr), *W. Takeuchi 12,920* (HOLOTYPE: LAE; ISOTYPE: BRIT).

Psychotria boucoffii Takeuchi affine, sed ramulis ad nodis furfuracea, inflorescentia subcondensata, non glabra, cum pedunculo breviori (non trichotoma ex basi).

Shrub or subarborescent in mature forest understories. *Bramblets* green, fleshy, pithy, cylindrical and robust, collapsed in sicco, furfuraceous with pale brown innovations at nodes, otherwise glabrescent. *Stipules* valvate, hyaline or opaque, fugacious or semipersistent at subapical nodes, deltate, to 16 mm × 13 mm, entire, weakly carinate, laxly provided with setuliform hairs on dorsal and ventral surfaces. *Leaves* decussate, glabrous, spreading, whether or not conferted; blades fleshy-coriaceous, lacking domatia, elliptic to oblanceolate, more often broadest above the middle, 11.0–23.5 cm × 4.25–9.0 cm, ± concolorous, adaxially very dark green, abaxially medium green, bifacially somewhat fuscous with drying, apex acuminate from an obtuse or tapered summit, the acumen generally 1–2 cm long, base gradually narrowing to a petiole 3–4 cm long; venation pinnatifid, major veins elevated, laterals equispaced, 15–19 pairs, divergent, arcuate, abruptly turned near the margin but generally not closing, reticulum irregular, obscure or hardly raised above, prominulous beneath. *Inflorescence* contracted, strictly terminal, panicleiform, 2–4 cm long, ramifications verticelled or not from a peduncle at most 1.5 cm long, ultimately cymose, caducously bracteate, rachises greenish, provided with scalelike ± crisped hairs, commissures furfuraceous. *Flowers* (rehydrated measurements) seen in advanced bud only, cymes crowded, glabrous without on all parts, pedicels proximally articulate; calyx turbinate, 7–8 mm × 6 mm, margin truncate or tearing irregularly, tube smooth, base passing insensibly to the pedicel; corolla white, gamopetalous, obtuse in bud, valvate, penta- or hexamerous, petals ligulate, 9–10 mm × 3.0–3.5

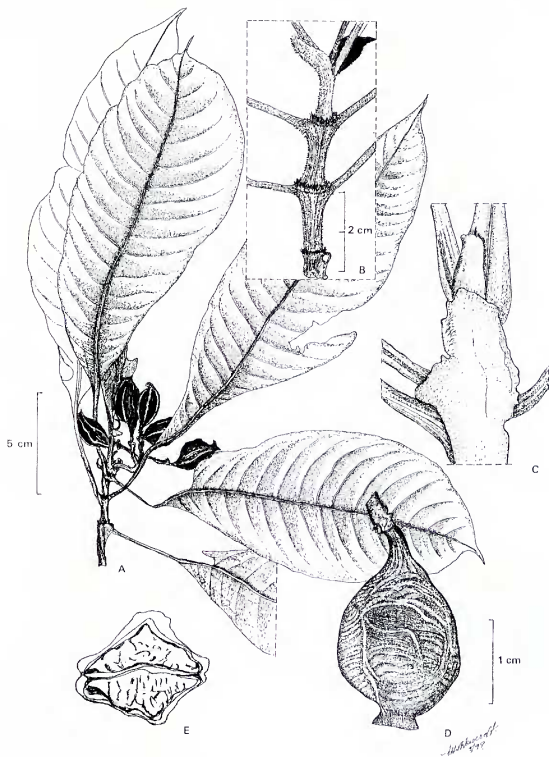


FIG. 4. *Prychotria matambuui* Takeuchi, sp. nov. A. Habit. B. Furfuraceous nodes on branchlet. C. Stipule. D. Drupe, exterior aspect. E. Drupe in cross-section, with pyrenes and ruminations. Drawn from holotype by N.H.S. Howcroft.

mm, tube cylindrical, 4–5 mm × 4–5 mm, throat marked with a 3 mm ring of uniseriate-septate hairs, otherwise glabrous; stamens alternipetalous, inserted in the sinuses, glabrous, filaments 2.5 mm long, anthers introrse, basifixed, exserted, oblongoid, 3.0–3.5 mm × 1 mm; style 8 mm long, but ?heterostylous, stigma 2-fid, 3 mm long, papillate, presented at the level of the anthers; disk glabrous, shallowly excavated in the center. *Drupe*s obovoid, 19–21 mm × 14–16 mm (exclusive of calyx), orange-brown, pericarp at first entire, angulate and blackened after drying, apex crowned by the erect calyx remnant, the calycine residue 4–5 mm long, tubular, cylindrical to infundibular. *Pyrenes* 2, equal, triquetrous, crested, endosperm filling the entire cavity, ruminations transversal.

Distribution and ecology.—*Psychotria matambuai* is a montane umbrophile restricted to understories of mature forest stands. It is known thus far from Mt. Bosavi and the Crater Mt. area, being especially plentiful at the latter locality.

Etymology.—The new binomial recognizes Karol Matambuai Kisokau, a former Secretary of the PNG Department of Environment and Conservation. Karol Kisokau had also served as the first General Manager of the Crater Mt. WMA and is currently Director of Conservation and Research of the Lae-based Village Development Trust.

Other specimens examined: PAPUA NEW GUINEA. Southern Highlands Province: Northern slopes of Mt. Bosavi, primary montane forest dominated by *Syzygium* and *Notofagus*, 06° 28' S, 142° 50' E, elev. 1,800 m, 22 Aug 1986 (fr), O. G. Gideon in LAE 57.347 (BRI, K, L, LAE). Eastern Highlands Province: Crater Mt. Wildlife Management Area, ridge above Maimafu airstrip to base of cascade at Mt. Mopahveh, montane forest near GPS coordinates 92802843 N, 28240 E, elev. 1,495–1,585 m, 16 Jul 1998 (fl), W. Takeuchi 12.130 (A, K, L, LAE); Crater Mt. Wildlife Management Area, buttress ridge to Mt. Aretame above Hauneabäbo village, natural growth montane forest, near GPS coordinates 9281348 N, 284190 E, elev. 1,677–1,830 m, 25 Jul 1998 (fl), W. Takeuchi 12.602-B (BRIT, LAE).

The new species is allied to the recently described *Psychotria boucroftii* Takeuchi of the Bismarck-Ramu foothills of northern PNG. The large drupes with cyathiform calycine residue are characteristic of both taxa. Since *P. matambuai* is apparently confined to the southern (Papuan) side of PNG, the species pair provides yet another example of the evolutionary floristic separations imposed by the Central Ranges.

Although similar to *P. boucroftii* in foliar, stipular, and fruit characters, *P. matambuai* is distinguishable by the furfuraceous nodes and a congested inflorescence with an indumentum of setiform hairs. On Sohmer's (1988) revision of non-climbing *Psychotria*, the new species should key to couplet 60 (ibid: 19). It can then be incorporated into the decision train by introducing a third line into the otherwise dichotomous sequence:

- | | |
|----------------------------------|----|
| 60. Fruit 4–5 mm in length | 61 |
| Fruit 10–12 mm in length | 62 |

- Fruit ≥ 20 mm in length *Psychotria matambuai*
 *P. howcroftii*

The sister species *P. howcroftii* was erroneously reported in the type description as keying to Sohmer's couplet 36 (Takeuchi 1999). The proper result should have been to fork 60 together with *P. matambuai*. The two species can be differentiated with the following couplet:

- Branchlets furfuraceous at nodes; inflorescence to 4 cm overall length,
 monopodunculate, rachises hairy, cymes congested *P. matambuai*
 Branchlets glabrous; inflorescence to 10 cm overall length, trichotomous,
 rachises glabrous, cymes loose *P. howcroftii*

There is a minor complication at fork 57, since the leaves of *P. matambuai* and *P. howcroftii* can have more than 18 lateral veins, being typically 15–19 penninerved. However the suggested outcome is more plausible than the alternative branch on the Sohmer key.

DISTRIBUTIONAL RECORDS AND OTHER NOTEWORTHY COLLECTIONS

ADIANTACEAE

Coniogramme sp. nov., aff. *macrophylla* (Bl.) Hieron.; coll. 12,197. Differs from Papuan populations of *Coniogramme macrophylla* by the longer, narrower pinnae and lax venation. The collection needs to be checked against *C. macrophylla* populations from western Malesia, to ensure that the character states are outside the range of variation for the species as a whole. The CMWMA plants are potentially new if the differences can be maintained against extra-Papuan material.

ANACARDIACEAE

Rhus lenticellosa Laut.; coll. 11,301, det. P.F. Stevens & WT. An undetermined Haia collection was placed to genus by P.F. Stevens (pers. comm. 6/98) and was subsequently keyed to the given result.

Rhus lenticellosa is apparently a rare vining species, formerly known only from the Sepik and Southern Highlands Provinces (Ding Hou 1978). The conspicuously cuspidate leaves are defining. Lae Herbarium previously had no specimens determined to this binomial.

BEGONIACEAE

Symbegonia parvifolia Gibbs; coll. 11,701. Apparently endemic to western New Guinea, with the few LAE sheets of this taxon all originating in Irian Jaya. Barkley (1972) had listed the species' range simply as 'New Guinea.' Possibly a record for the eastern side.

BURSERACEAE

Canarium sp. ?nov.; coll. 11,886. What appears to be a new species of *Canarium* was encountered during the recent survey. The suspected novelty has a de-

ciduous phenology, 2.5 cm acuminate stipules, and large leaflets up to 43 cm long and 14 cm wide: unusual features which should ordinarily have resulted in identification. However the plant cannot be made to key out on the Flora Malesiana and does not conform to the description of any known Papuanian *Canarium*.

CLUSIACEAE/GUTTIFERAE

Mammea papuana (Laut.) Kosterm.; coll. 11,905, det. P.F. Stevens. Two collections of this species were previously known, both from E. Sepik Province (Stevens 1974).

CONVOLVULACEAE

Erycibe carrii Hoogl.; coll. 12,619. Keys to this result on van Oostroom (1955). Apparently rare. Lae Herbarium has a single sheet of this distinctive species.

Erycibe hollrungii Hoogl.; coll. 11,762. Twigs with longitudinal cork lines and the densely strigose sepals readily distinguish *E. hollrungii* from close congeners like *E. bellwigii*.

Hoogland (1953a) described the species on the basis of a collection from NE New Guinea. In the van Oostroom revision (1953), the taxon was characterized as being known only from the type, though Hoogland himself later found the species along the Puria River in Madang (Hoogland 1953b). Since then there has been nothing reported on this apparently rare plant. Lae Herbarium has a single sheet, consisting of the Hoogland number from Madang.

Erycibe hollrungii is relatively common around Haia and many duplicates were secured during the recent expedition. The CMWMA collections are a first record for Papua.

ELAEocarPACEAE

Elaeocarpus lingualis Knuth, 'sepikanus group'; coll. 11,672. A member of a complex including *E. elatus*, *E. sarcanthus*, and *E. sepikanus* sensu stricto. Coode (1981) shows how to separate the species with flowering material, but acknowledges the taxonomy of this group is still problematic.

The species is known from only a small number of localities and had not been definitely reported from the Papuan districts.

EUPHORBIACEAE

Aporosa lamellata Airy Shaw; coll. 11,826. Large oblongish leaves and persisting auriculiform stipules indicate a relationship to *A. petiolaris* but the conspicuously ridged capsules are unique in the genus (Airy Shaw 1978). The fruiting collection keys unequivocally to the given species and matches the type description in Airy Shaw (ibid).

Aporosa lamellata was formerly regarded as endemic to West Irya (ibid) although a recent determination (by A. Schot, 1996) on NGF 42,544 places

the taxon in the West Sepik as well. The species is now recorded for the Papuan side.

Baccaurea papuana F.M. Bailey; colls. 12,563, 12,948. (Fig. 5). The Maimafu collection from 1,768 m is the highest elevation of record for the species, which is ordinarily characteristic of lowland and coastal environments. CMWMA montane populations have a number of nonconformist features, including leaves smaller than the low elevation form and much larger fruits 35–40 mm long and 27–42 mm wide. The collections were initially prepared as sp. nov., but Airy Shaw (1980) adopts a broad circumscription of *B. papuana* and his conservative view is followed.

Macaranga reiteriana Pax & Hoffm.; colls. 12,262, 12,274, 12,507. (Fig. 6). A subarborescent from Whitmore's (1980) 'Longistipulara group,' *Macaranga reiteriana* is distinguished by a dense sericeous indumentum and by solitary sessile fruits inserted on bare peduncles.

The species is known only from Morobe Province, Gulf Province, and the Idenburg River in West Iryan (ibid). Collections 12,262 and 12,274 key directly to this binomial and agree with cited material. The species was also recently reported from the Bismarck Mts., Western Highlands (Takeuchi 1999), and is probably much more widespread than the number of collection localities would suggest.

FABACEAE/LEGUMINOSAE

Incarpus sp. nov. ('rubidus' morphospecies fide Verdcourt); colls. 11,139, 12,054. This cryptic species has been discussed by Verdcourt (1979) and keys out to the given result. We have several collections from various expeditions to the Papuan districts, so the taxon is apparently not particularly rare.

An unusual feature is the red sap. Leaves are distichous and with conspicuous raised areolations on the underside. The rather small stipules are another identification aid, being subsistent and often conferred at the apical bud.

Our several sheets of the undescribed taxon all dried to a distinctive orange-brown color.

FLACOURTIACEAE

Ryparosa calotricha Mildbr.; coll. 12,008. The species is recognizable in sterile condition, due to its distinctive foliar characteristics. Not previously recorded from Papua (Sleumer 1954), and although other Papuan collections may have been obtained since Sleumer's revision, the tree is probably uncommon in the southern provinces.

MONIMIACEAE

Palmeria gracilis Perkins var. ?nov.; coll. 12,431. The collection is atypically strigose on leaves and inflorescence. Possibly a new variety.



FIG. 5. *Baccanrea papuana* E.M. Bailey. A. Branchlet, habit. B. Infructescence on old wood. Drawn from *Takenchi* 12,948 by N.H.S. Howcroft.



FIG. 6. *Macaranga veiteriana* Pax & Hoffm. A. & B. Habit of fruiting branch. Drawn from Takeuchi 10,496 by N.H.S. Howcroft.

Stegantera sp. ?nov., aff. 'myrmecophilous group'; coll. 12,742. Branchlets are nodose and ant-inhabited but the surfaces are manifestly muricate, immediately distinguishing the plant from the related *S. hospitans*. The large leaves are also distantly toothed rather than entire. Female receptacles are distinctively 3-lobed and crenate. Possibly a new species.

MYRSINACEAE

Loberia reiniana (Jacobs) Sleumer; coll. 11,921. There are two endemic species of *Loberia*, both of which are rare and little-represented in herbaria.

Sleumer (1988) cites a total of 5 collections of this species. Most of the

existing specimens have originated from the Papuan districts, but the species is apparently nowhere very common. Lae Herbarium has nearly all the exsiccatae known to Sleumer, including an isotype. There is no published information on the ecology of the Papuan taxa.

Loberia reiniana is locally common near Haia, where it was seen growing as a terrestrial monocaul with leaves crowded in a terminal coma. The species is always found only in sciophytic situations sequestered within mature stands and is never in seral environments. Blossoms fall quickly after opening, generally on the same day that the perianth deploys.

Population-based studies have never been made of Papuan *Loberia* and the CMWMA occurrences afford that opportunity.

MYRTACEAE

Syzygium sp. ?nov.; colls. 11,235, 11,719. The collections are from a very distinctive species which does not key on Hartley and Perry (1973) on any couplet permutation. The suspected novelty is a subcanopy monocaul with flowers in condensed cauline cymes.

OLEACEAE

Chionanthus sp. ?nov.; aff. *salicifolius* (Lingelsh.) Kiew; coll. 12,965. The herbaceous leaves with closely set venation are unusual for this genus. Similar to Carr 14,121, annotated by Kiew as *Chionanthus* aff. *salicifolius*.

ORCHIDACEAE

Vanilla wariensis Schltr.; coll. 11,842, det. N.H.S. Howcroft. *Vanilla* is the basis for a local commercial industry which has thus far relied entirely on alien species. Endemic *Vanilla* have potential value as breeding stock for introducing genetic improvements into the current horticultural base (Howcroft, pers. comm.)

Vanilla wariensis is a rare orchid with exceptionally large blades and was not previously represented at Lae Herbarium by any specimens. There are no extant populations known of this species except for the Haia colonies (ibid).

RUBIACEAE

Psychotria dieniensis Merr. & Perry; coll. 12,343. Previously known only from the Fly and Sepik drainages (Sohmer 1988).

Psychotria polita Valeton, or aff.; coll. 12,397. *Psychotria polita* is known from the single surviving collection cited by Valeton (1927). Sohmer (1988) does not include the species in his key since the plant is not sufficiently understood. However there is a plate of the only extant sheet and a brief description of its salient characters (ibid).

The Maimafu voucher agrees with the available information on this binomial, including the particulars of its leaves and the extremely delicate

axes of the inflorescence. It is either the elusive *P. polita*, or a new taxon allied to it.

Psychotria sphaerothyrsa Valeton; coll. 12,979. A rare species. Known previously only from the lectotype and isolectotype from West Sepik Province and from a citation by Merrill & Perry (1946) from Central Province (Sohmer 1988).

Psychotria womersleyi Sohmer; colls. 12,028, 12,056. Previously known from only two specimens originating in Eastern Highlands Province, above 1500 m (Sohmer 1988).

RUTACEAE

Wenzelia tenuifolia Swingle; coll. 12,958. The entire genus is rare; all 5 species being known from very few specimens. Stone (1985) had discussed the difficulty of evaluating *Wenzelia* due to the scarcity of collections available for study. He also commented on the elevational range of the genus, noting that Swingle (1967) had not thought it possible for the aurantioid taxa to ascend above 1,220 m.

The present collection from 1,770 m is the highest elevation of record for *Wenzelia* and is the fifth specimen known.

SAPINDACEAE

Alectryon myrmecophilus Leenh.; coll. 12,746. Previously known only from Morobe Province (Leenhouts 1994).

Harpullia camptoneura Radlk.; coll. 11,889. A species of NE New Guinea (Leenhouts & Vente 1994). Newly recorded for the Papuan districts.

SOLANACEAE

Solanum dendropilosum Symon; coll. 11,854, det. D.E. Symon. The Crater Mt. number was originally distributed as 'sp. ?nov. aff. *dendropilosum*' but has been more recently determined to the species by Symon (pers. comm. 7/98).

Solanum dendropilosum is represented by few collections and the atypical features of the survey voucher probably represent juvenile characters. However the indumentum is unusual and possibly cannot be accommodated under the present name (ibid).

Solanum peranomalum Wernham; coll. 11,204, conf. D.E. Symon. Collection 11,204 was keyed to this species, formerly known only by the type specimen from Mt. Carstensz in West Irian. The determination has been confirmed by Symon (pers. comm. 7/98).

A new record for Papua New Guinea.

STERCULIACEAE

Sterculia monticola Mildbr. var *laxiflora* Tantra; colls. (fr) 12,148, 12,647.

The collections key to the given result on available characters. Since the fruits from this species were previously unknown (Tantra 1976), an accessory description is provided from the present material:

Fructescence racemiform, axillary, pendulous, ebracteate, fruiting stalk to 11 cm long and 4.5 mm thick, tomentulose, the hairs densely and appressedly stellate, mostly 4–8 armed; pedicels 20 mm long, articulated above the middle, indumentum like the rachis; follicles 1–4, free, shortly stipitate, divergent, coriaceous, mucilaginous, oblong-acuminate, to 9.0 cm long and 2.0 cm wide, arcuate along the dorsal suture, ventrally somewhat plane; valves 3–5 mm thick, exterior surfaces at first brown, later orange, striate with drying, scabridulous, covered by minute stellate hairs, these with arms ±erectopatent and setiform, interior surfaces glabrous; seeds 8–11, black.

APPENDIX I. LIST OF PLANT TAXA FROM CRATER MOUNTAIN

Voucher source for occurrence record: AM = Andy Mack, C&S = L.A. Craven & R. Schodde, GW = George Weiblen, Ha = village collectors ex Haia, He = village collectors ex Herowana, LAE = staff collections from the Lae Herbarium number series, S&C = R. Schodde & L.A. Craven, WT = W. Takeuchi; sn = sin número (without number); SR = sight record of taxon known to the project botanist. Other collectors indicated by name. Determinations by WT unless otherwise noted.

FERNS AND FERN ALLIES

ADIANTACEAE

- Coniogramme* sp. nov., aff. *macrophylla* (Bl.) Hieron., WT 12197
Syngamma schlechteri Brause, WT 11168
Taenitis blechnoides (Willd.) Swartz, SR, Maimafu

ASPLENIACEAE

- Asplenium acrobryum* Christ, WT 11852, 12181, 12554
Asplenium bipinnatifidum Baker, WT 11816, 12487, 12552
Asplenium cuneatum Lam., SR, Haia; possibly *A. affine* Sw.
Asplenium decorum Kunze, WT 11962, 12741
Asplenium keyserianum Rosenst., WT 12910
Asplenium morobense Copel., WT 12114
Asplenium nidus L. var. *nidus*, WT 11798
Asplenium pellucidum Lam., WT 11742
Asplenium phyllitidis Don subsp. *maleisicum* Holttum, WT 11115
Asplenium cf. *saucti-christofori* Christ, WT 11723; possibly *A. keyserianum* Ros.

- Asplenium scandens* J. Smith ex Mett., WT 11861, 12157, 12167, 12534
Asplenium steerei Harrington, WT 12104, 12227; '*cromwellianum*'
Asplenium (close to) *steerei* Harrington, WT 12250, 12433, 12491, 12493
Asplenium submarginatum Rosenst., WT s.n.
Asplenium tenerum Forst., WT 12483
Asplenium unilaterale Lam., WT 12166
Didymochlaena truncatula (Swartz) J. Smith, WT 12170, 12972-A
Diplora sp., LAE 61104, Purari R., det. Croft & Leiden, = *Phyllitis longifolia* (Presl) O. Ktze.
Diplora sp., C&S 794, Purari, det. Croft, = *Phyllitis* sp., aff. *?longifolia*

ATHYRIACEAE

- Callipteris prolifera* (Lam.) Bory, SR, Haia
Diplazium acrocarpum Rosenst., or aff., WT 11159
Diplazium aff. '*bantamense* group', WT 11726, 11825
Diplazium cordifolium Bl., SR, Haia

Diplazium schlechteri Hieron., WT 11794

AZOLLACEAE

Azolla pinnata R. Br., SR, Maimafu

BLECHNACEAE

Blechnum acutiusculum (v.A.v.R.) C. Chr., WT 12354, 12806

Blechnum dentatum (Kuhn) Diels, WT 11734

Blechnum cf. *deorso-lobatum* Brause, WT 12323

Blechnum orientale L., SR, Haia; cf. LAE 61165, above Purari R.

Stenochlaena areolaris (Harr.) Copel., SR, Haia

Stenochlaena milnei Underwood, SR, equiv. to WT 11523

Stenochlaena palustris (Burm. f.) Beddome, SR, Haia; cf. LAE 61111, Purari R.

CYATHEACEAE

Cyathea contaminans (Wall.) Copel., SR, Maimafu

Cystidium sorbifolium (Sm.) J. Smith, WT s.n.

Dicksonia sp., SR, upper Maimafu

DAVALLIACEAE

Davallia solida (Forster) Swartz, SR, cf. C&S 783, Purari, det. Croft

Davallia trichomanoides Bl., WT 12703

Davallodes novoguineense (Rosenst.) Copel., WT 12526, 12989

Humata dimorpha Copel., WT 11777

Humata pectinata (Sm.) Desv., SR, O-Pio

Humata tenuis Copel., WT 11780, 12223, 12614

Scyphularia cf. *dorsalis* Copel., WT 11949; 'dorsalis - sinusora group'

Scyphularia pentaphylla (Bl.) Fée, LAE 61153, Purari R.

DENNSTAEDTIACEAE

Dennstaedtia novoguineensis (Rosenst.) Copel., WT 11822

Dennstaedtia scandens (Bl.) Moore, WT 11744

Histiopteris incisa (Thunb.) J. Smith, WT 11685

Pteridium aquilinum (L.) Kuhn, WT 12799, approaching *P. esculentum*

DIPTERIDACEAE

Dipteris conjugata Reinwardt, WT 12232

Dipteris novo-guineensis Posthumus, SR, Maimafu; less common than congener

DRYOPTERIDACEAE

Arachnodes aristata (Forst. f.) Tindale, WT 12696

Dryopolystichum phaeostigma (Ces.) Copel., LAE 61158, Purari River; det. Grimes

Polystichum aculeatum (L.) Schott, s. lat., WT 11757

EQUISETACEAE

Equisetum ramosissimum Desf. subsp. *debile* (Vauch.) Hauke, WT s.n.; O-Pio

GLEICHENIACEAE

Dicranopteris linearis (Burm. f.) Underwood var. *linearis*, WT 12215

Gleichenia dicarpa R. Br., SR, upper Maimafu

Gleichenia birta Bl. var. *candida* (Rosenst.) Holtrum, WT 12320

Gleichenia cf. *sordida* Copel., WT 12225, subg. *Diplopterygium*

GRAMMITIDACEAE

Calymmodon clavifer (Hooker) Moore, SR, Maimafu

Ctenopteris multicaudata (Copel.) Copel., WT 12849

Ctenopteris repandula Kunze, WT 11817

Ctenopteris subsacandodissacta (Zoll.) Copel., WT 12053, 12368

Ctenopteris sp. A, 'taxodioides-yoderi group', SR, upper Maimafu

Ctenopteris sp. B, WT 12907

Grammitis sumatrana (Baker) Copel., WT 11278

Grammitis spp., WT 12833, 129096

Loxogramme scolopendrioides (Gaud.) Morton, WT 11964

Prosaptia alata (Bl.) Christ, WT 12224; prob. syn. with *Ctenopteris*

HYMENOPHYLLACEAE

Crepidomanes bipunctatum (Poir.) Copel., WT 11935

Trichomanes apblebioides Chr., LAE 61147, Purari River, det. Croft

Trichomanes atrovirens (Presl) Kunze, LAE 66281, Wabo dam site

Trichomanes intermedium v.d.B., LAE 66314, near Wabo

LINDSAEAE GROUP

Lindsaea cf. *lobata* Poir., WT 12115, possibly *L. obtusa* complex

Lindsaea lucida Bl., SR, Pio
Lindsaea microstegia Copel., WT 11737,
 11788

Lindsaea obtusa J. Smith, WT 11722, 12194,
 12701

Lindsaea pulchella (J. Smith) Mettenius ex
 Kuhn var. *blanda* (Mettenius ex Kuhn)
 Kramer, WT 12889

Lindsaea pulchra (Brackenridge) Carruthers
 ex Seemann, WT 12896

Lindsaea tenuifolia Bl., LAE 66296, Wabo
 dam site

Sphenomeris chinensis (L.) Maxon, SR,
 Maimafu airstrip

Sphenomeris retusa (Cav.) Maxon, WT 12612

Tapenidium longipinnulum (Cesati) C. Chr.,
 SR, Haia

Tapenidium novoguineense Kramer, WT
 11824, 12344

Tapenidium cf. *novoguineense* Kramer, WT
 12317

LOMARIOPSISIDACEAE

Bolbitis heteroclita (Presl) Ching, WT 11819,
 12409

Bolbitis quoyana (Gaud.) Ching, WT 11154;
 miniature form

Bolbitis rivularis (Brackenridge) Ching, WT
 12569

Elaphoglossum novoguineense Rosenst., WT
 11246

Lomagramma sinuata C. Chr., WT 11755;
 cf. LAE 61095, Purari

Lomariopsis kingii (Copel.) Holttum, SR,
 Haia; cf. S&C 4644

LYCOPODIACEAE

Huperzia aff. ?*carinata* (Poiret) Trevisan,
 WT 11120

Huperzia nannulariifolia (Bl.) Jermy, SR,
 Haia

Huperzia pblegnaria (L.) Rothm., WT 12442;
 C&S 878, Purari

Huperzia cf. *pblegnaria* (L.) Rothm., WT
 12139

Huperzia squarrosa (Forst. f.) Trevisan, WT
 12055

Huperzia (near) *squarrosa* (Forst. f.) Trevisan,
 LAE 66309, Wabo dam site

Lycopodium volubile Forst. f., WT 12811,
 12851

Palhinbaca cernua (L.) Vasc. & Franco, SR,
 Haia & Maimafu

MARATTIACEAE

Angiopteris erecta (Forst.) Hoffman, WT
 12230

Marattia brassii Copel., LAE 61162, Purari
 River, det. Leiden list

Marattia cf. *novoguineensis* Rosenst., WT
 11832

OLEANDRACEAE

Nephrolepis acuminata (Hourtt.) Kuhn, WT
 11790, 12435, 12496, 12602, 12610,
 12624, 12626, 12638

Nephrolepis biserrata (Swartz) Schott, WT
 11753

Nephrolepis cf. *falcata* (Cav.) C. Chr., WT
 11118; indumentum close to *falcata*

Nephrolepis lauterbachii Christ, WT 12067,
 12340

Oleandra cuspidata Baker, WT 11714, 12970

Oleandra wernerii Rosenst., WT 11116

OPHIOGLOSSACEAE

Ophioglossum pendulum L., SR; cf. C&S 796,
 Purari

OSMUNDACEAE

Leptopteris alpina (Baker) C. Chr., WT 12363,
 'typical form' sensu Johns

POLYPODIACEAE

Aglaomorpha drynarioides (Hook.) Roos, WT
 11147

Aglaomorpha beraclea (Kunze) Copel., SR,
 Maimafu

Aglaomorpha hieronymi (Brause) Copel., WT
 12527, 12611

Aglaomorpha cf. *novoguineensis* (Brause) C.
 Chr., WT 12213, 12292, 12513, 12535

Belvisia mucronata (Vée) Copel. var. *mucronata*,
 WT 11111, 11845, 12467, 12783

Drynaria sparsisora (Desvaux) T. Moore, SR,
 Haia

Goniophlebium persicifolium (Desvaux)
 Beddome, WT 11119

Goniophlebium subauriculatum (Bl.) Presl,
 WT 11117, 12313, 12501, 12512

Lecanopteris mirabilis (C. Chr.) Copel., WT
 12758

Lenmaphyllum acedens (Bl.) Donk, AM 403;
 WT 11725

Leptochilus decurrens Bl., WT 11963
Microsorium glossophyllum (Copel.) Copel.,
 WT 12521

Microsorium linguiforme (Mettenius) Copel.,
 LAE 61161, Purari River, det. Grimes
Microsorium papuanum (Baker) Parris, WT
 12457, 12568, 12631, 12805, =
Phymatosorus sp.

Microsorium punctatum (L.) Copel., WT 11953
Microsorium rampans (Baker) Parris, WT
 11775

Microsorium subgeninatum (Christ) Copel.,
 WT 11745, = *Phymatosorus* sp.

Phymatosorus commutatus (Bl.) Pichi Sermolli,
 WT 11735, 11881, 12025, 12426

Phymatosorus nigrescens (Bl.) Pichi Sermolli,
 WT 12726

Phymatosorus cf. *nigrescens* (Bl.) Pichi Sermolli,
 WT 12736

Pyrrosia foveolata (Alston) Morton var.
foveolata, WT 11946

Pyrrosia foveolata (Alston) Morton var.
lauterbachii (Chir.) Hovenkamp, LAE
 66321, det. Leiden list

Pyrrosia princeps (Mettenius) Morton, WT
 11931

Selliguea albidosquamata (Bl.) Parris, WT
 11792, 12613, 12727

Selliguea enervis (Cav.) Ching; sensu
 Hovenkamp, WT 12151, 12832, 'grami-
 neous' form

Selliguea enervis (Cav.) Ching; sensu
 Hovenkamp, WT 12315, 'typical' form

Selliguea ferrea (Brause) Hovenkamp, or aff.,
 WT 11781

PSILOTAACEAE

Ptilotum complanatum Swartz, SR, Haia
Ptilotum nudum (L.) Beauv., SR, Haia

PTERIDACEAE

Acrostichum speciosum Willd., S&C 4481,
 det. Leiden

Pteris excelsa Gaud., WT 12377, 13002

Pteris gardneri (Fée) Hooker, WT 12438

Pteris moluccana Blume, SR, Haia

Pteris orientalis v. A.v.R., WT 12608, 12730,
 13001

Pteris pacifica Hieron., WT 11910

Pteris schlechteri Brause, WT 12161

Pteris tripartita Swartz, WT 11778

Pteris wallichiana Agardh, WT 13003

Pteris wernerii (Rosenf.) Holttum, WT
 12876

SCHIZAEACEAE

Lygodium circinnatum (Burm. f.) Swartz, SR;
 cf. C&S 736, det. Croft

Lygodium salicifolium Presl, WT 11155

Schizaea dichotoma (L.) Sm., SR; cf. S&C
 4229, det. S&C

Schizaea digitata (L.) Swartz, LAE 66355,
 det. Leiden list

SELAGINELLACEAE

Selaginella 'velutina-wallichii group', WT
 11774; interspecific distinction not clear

TECTARIA GROUP

Tectaria beccariana (Cesati) C. Chr., SR, Haia
Tectaria pleiosora (Alderw.) C. Chr., WT s.n.

Tectaria repanda (Willd.) Holttum, WT
 12437

Tectaria cf. *repanda* (Willd.) Holttum, WT
 12415, 'crenata-repanda group'

THELYPTERIDACEAE

Amphineuron aff. *immersum* (Bl.) Holttum,
 WT 11911

Chingia imponens (Ces.) Holttum, WT 11687

Plesioneuron marattioides (Alston) Holttum,
 WT 12400

Pneumatopteris cf. *sogerensis* (Gepp) Holttum,
 WT 11686, but keys to *P. rodigasiana*

Sphaerostephanos atasripitii (Rosenst.) Holttum,
 WT 11932

Sphaerostephanos heterocarpus (Bl.) Holttum,
 WT 11793

Sphaerostephanos invisus (Forst. f.) Holttum,
 LAE 61122, Purari R., det. Leiden list

Sphaerostephanos multiauriculatus (Copel.)
 Holttum, WT 11918

Sphaerostephanos novoguineensis (Brause)
 Holttum, WT 10909

Sphaerostephanos pilosquamatus (v. A.v.R.)
 Holttum, WT 11823

Sphaerostephanos imitus (L.) Holttum, SR, Haia

THYRSOPTERIDACEAE

Calcita sp.; *straminea* or *villosa*, SR, upper
 Maimafa

VITTARIACEAE

Antrophyum alatum Brackenridge, WT
 11933; LAE 61094, Purari, det. Croft

Antrophyum subfalcatum Brackenridge, LAE 66327, det. Croft

Vittaria elongata Swartz, SR, Haia

GYMNOSPERMS

ARAUCARIACEAE

Araucaria bunstenii K. Schum., SR, Maimafu

CUPRESSACEAE

Libocedrus papuana E.v.M. var. *papuana*, WT 12203

CYCADACEAE

Cycas scratchleyana E.v.M., LAE 61174, Purari River, det. K.D. Hill, also C&S 750

GNETACEAE

Gnetum guenon L. or *G. costatum* K. Schum., WT s.n.

Gnetum latifolium Bl., WT 12079

PODOCARPACEAE

Dacrydium imbricatum (Bl.) de Laubenfels, WT s.n.

Podocarpus neriifolius D. Don, SR, Pio; cf. S&C 4237, det. de Laubenfels

Prumnopitys amara (Bl.) de Laubenfels, WT 12304, 12827

DICOTS

ACANTHACEAE

Calophanoides angustata (Warb.) Brem., WT 12265-A

Dicliptera papuana Warb., WT 12510

Graetophyllum cf. *pictum* (L.) Griff., WT 11126

Hemigraphis reptans T. Anders., or aff., SR of common herb, Haia

Lepidagathis sp., WT 12033

Peristrophe sp., WT 11260

Ptyxislottis pubisepala (Lindau) B. Hansen, WT 11269

Rungia klossii S. Moore, WT 12072, 12890

ACTINIDIACEAE

Saurauia aff. *?calyptrata* Laut., WT 12918

Saurauia congestiflora A.C. Smith, WT 12017

Saurauia cf. *dusanrii* (E. v. M.) Bailey, WT 12107-R

Saurauia naumamii Diels, or aff., WT 11124, 11689, 12200, 12475, 11124, 11689, distr. as aff. *conferta*

Saurauia schumanniana Diels, s.l., GW 716B; WT 11811, 12022

Saurauia stichophlebia Diels or aff., WT 11166, 11184

Saurauia sp., series ?Obtectae, WT 12217, 12302 (form 1); 12690, 12769 (form 2)

Saurauia sp., series Obvallatae, aff? *conferta* Warb., WT 12042, 12078, not the sp.

Saurauia sp., series Ramiflorae, WT 12476

Saurauia sp., series Setosae, WT 11810

Saurauia sp. A, unplaced aff., WT 12013, 12169

Saurauia sp. B, unplaced aff., WT 12097, 12916

Saurauia sp. C, unplaced aff., Sands et al. 1482, Purari R.

AMARANTHACEAE

Achyranthes aspera L., SR, O-Pio

Achyranthes bidentata Bl., WT 12576

Celosia argentea L., WT 11967

Iresine herbstii Hook. f., WT 12801

ANACARDIACEAE

Buchanania arborescens (Bl.) Bl., AM 336, 589; WT 12091

Buchanania macrocarpa Laut., SR, Haia & Pio; cf. C&S 765, det. Ding Hou

Campnosperma brevipedicelata Volkens, SR, Haia *Dracontameilon dao* (Blanco) Merr. & Rolfe, AM 252

Gluta papuana Ding Hou, S&C 4492, E. Purari, det. Ding Hou

Pleogynium timoriense (DC.) Leenh., WT 12092

Rhus lenticellosa Laut., WT 11301, det. Stevens & WT, distr. as indet.

Rhus taitensis Guillemin, WT 12404

Semecarpus aruensis Engl., WT 11243

Semecarpus bracteatus Laut., WT 12543, 12841

Semecarpus magnificus K. Schum., WT 12678

Semecarpus papuanus Laut., WT 12048, 12063, 12065, 12693 (fr), 12749 (fr)

Semecarpus rostratus Valetton, LAE 61120, Purari R., det. Ding Hou

Semecarpus schlechteri Laut., WT 11828

ANNONACEAE

Cananga odorata Hook. f. & Thoms., SR; cf. S&C 4499, E. Purari, det. S&C

Cyatobocalyx papuanus Diels, SR; cf. *S&C* 4230, 4385, det. Leiden

Goniothalamus aruensis Scheffer, *WT* 11234

Goniothalamus imbricatus Scheffer, *WT* 11206, 11800

Haplostichanthus longirostris (Scheffer) van Heusden, *WT* 11272

Polyalthia 'glauca-discolor group', *WT* 12094

Polyalthia aff. '?oblongifolia group', *WT* 11160, 11215, 11913, distinctive; laterals acroscopic, leaves areolate

Popowia cf. *pisocarpa* (Bl.) Endl., *WT* 11248

Popowia aff. '*pisocarpa* group', *WT* 11901

Pseuduvaria cf. *grandifolia* (Warb.) J. Sinclair, *WT* 12024

Xylopia malayana (Hook. f.) & Thoms., or *papuan* Diels, *WT* 11994

APOCYNACEAE

Alstonia macrophylla Wall., ex G. Don, *WT* 12643

Alstonia scholaris (L.) R. Br., *WT* 12071

Alyxia markgrafii Tsiang, *WT* 11740

Alyxia sp.; cf. series *Floribundae*, *WT* 12300

Anodendron oblongifolium Hemsl., SR, Pio; cf. *S&C* 4380, det. Middleton

Cerbera floribunda K. Schum., *AM* 1; *WT* 12006, 12695

Finlaysonia obovata Wallich, *C&S* 813, E. Purari, det. Forster

Ichnocarpus frutescens (L.) W.T. Aiton, *WT* 11756

Lepiniopsis ternatensis Valetton, *C&S* 825, Purari

Melodinus acutus (Markgraf) Markgraf, *WT* 12468 (fr), 12978

Melodinus forbesii Fawc., *WT* 11710; *LAE* 61102, Purari R.

Neisosperma ficifolium (S. Moore) Fosb. & Sach., *WT* 11237, 11997

Papuachites aambe (Warb.) Markgraf, SR, Pio; cf. *LAE* 66354, det. Middleton

Parsonia lata Markgraf, *WT* 12309 (fr), 12511

Parsonia oligantha (K. Schum.) D.J. Middleton, SR, O-Pio

Parsonia sanguinea (Wernham) Markgraf var. *brassii* (Markgraf) D.J. Middleton, *WT* 12387, 12880

Parsonia (closest to) *sanguinea* var. *brassii*, *WT* 11760

Parsonia warenensis Kanehira & Hatusima, *WT* 12731-A

AQUIFOLIACEAE

cf. *Ilex*, *WT* 12634

ARALIACEAE

Gastonia spectabilis (Harms) Philipson, SR, Haia

Harmsioplanax barmisii K. Schum., *WT* 12205

Mackinlaya celebica (Harms) Philipson, *WT* 11164

Mackinlaya schlechteri (Harms) Philipson, *WT* 11298, 11772

Osmoxylon boerlagei (Warb.) Philipson, *WT* 12700

Osmoxylon micranthum (Harms) Philipson, *WT* 12171

Osmoxylon novoguineense (Scheffer) Becc., SR; cf. *C&S* 789, Purari, det. Philipson

Polyscias cf. *ledermannii* Harms, *WT* 11982
Schefflera schumanniana Harms ssp. *schumanniana*, *WT* 11130

ARISTOLOCHIACEAE

Pararistolochia momandul (K. Schum.) M.J. Parsons, *GW* 743, 813; based on *GW* det.

ASCLEPIADACEAE

Asclepias physocarpa Schltr., *WT* 12796

Dischidia ovata Benth., *S&C* 4480, E. Purari, det. Liddle

Dischidia torricellensis (Schltr.) P.I. Forster, *WT* 11736; det. P.I. Forster

Heterostemma acuminatum Decne., *WT* s.n.; *S&C* 4705, det. P.I. Forster

Hoya australis R. Br. subsp. *tennipes* (K.D. Hill) P.I. Forster & Liddle, *WT* 11867, 11947; det. P.I. Forster

Hoya lanterbachii K. Schum., *WT* 11185, 11205; det. P.I. Forster

Hoya litoralis Schltr., *S&C* 4482, Purari, det. Green, (not seen)

Hoya piestolepis Schltr., *WT* 11945; det. P.I. Forster

Marsdenia velutina R. Br., *WT* 11748; det. P.I. Forster

Marsdenia sp., cf. *venusta* P.I. Forster, cf. *C&S* 700 (type coll.), det. P.I. Forster

Sarcobolus globosus Wallich subsp. *peregrinus* (Blanco) Rintz, S&C 4461, E. Purari, det. P.I. Forster

Sarcobolus kaniense (Schltr.) P.I. Forster, WT 11843; det. P.I. Forster

Sarcobolus oblongus Rintz, cited by Rintz (1980) from Purari R.

Tylophora flexuosa R. Br., S&C 4490, E. Purari, det. P.I. Forster

ASTERACEAE (COMPOSITAE)

Adenostemma laevnia (L.) Kuntze, SR, Haia; also S&C 4500

Adenostemma macrophyllum (Bl.) DC., WT 12024, 12062

Ageratum conyzoides L., WT 12797

Bidens pilosa L. var. *minor* (Bl.) Sherff, WT 12606

Blumea arfakiana Marrelli, WT 11223

Blumea arnakidophora Matfield, SR, Maimafu

Blumea riparia (Bl.) DC., WT 11743, 12245

Blumea sylvatica (Bl.) DC., WT 12271, 12848, 12981

Cosmos caudatus HBK, WT s.n.

Crassocephalum crepidioides (Benth.) S. Moore, WT 12605, 12640

Emilia sonchifolia (L.) DC. var. *javanica* (Burm.) Matfield, WT 12795-A

Erechtites valerianifolia (Wolf) DC., SR, Haia

Erigeron sumatrensis Retz., WT 12604

Ethulia conyzoides L.f. ex L., WT 12878

Gynura procumbens (Lour.) Merr., WT 12931

Microglossa pyrifolia (Lamk.) O. Ktze, WT 12089

Mikania cordata (Burm. f.) B.L. Rob., WT 12630

Senecio sp. ? nov., WT 12322; vining, fulvous lanate underleaf

Tagetes minuta L., SR, Hauneababo track

Tibouia diversifolia (Hemsl.) A. Gray, SR, Haia & Maimafu

BALANOPHORACEAE

Balanophora papuana Schltr., WT 12755

BALSAMINACEAE

Impatiens hauckeri Bull, WT 12518

Impatiens linearifolia Warb., WT 12256; or as Grey-Wilson's 'group 10'

BARRINGTONIACEAE

Barringtonia calyptata (Miers) R. Br. ex Bailey, cited in Payson (1967)

BEGONIACEAE

Begonia aff. *angustae* Irmscher, WT 11195, 12628

Begonia pinnatifida Merr. & Perry, WT 11290

Begonia aff. *pseudolateralis* Warb., WT 11125, 'brachybotrys-pseudolateralis'

Begonia serratifolia Irmscher, WT 11171

Begonia sp. 'kaniensis group', WT 12082, 12458, det. Gideon

Begonia sp., 'tafaensis group', WT 12080, 12852

Begonia sp. A, unknown aff., LAE 61187, above Purari R.

Begonia sp. B, unknown aff., WT 12030, 12142-A

Symbegonia fulvo-villosa (Warb.) Warb., WT 12029, 12086, 12154, 12913

Symbegonia geraniifolia Ridl., WT 12178, 12321, 12392, 12395

Symbegonia papuana Merr. & Perry, WT 12176

Symbegonia parvifolia Gibbs, WT 11701

BIGNONIACEAE

Dolichandrone spatheacea (L.f.) K. Schum., C&S 871, Purari, det. van Steenis

Pandorea pandorana (Andr.) Steenis ssp. *pandorana*, WT 12460

Tecomauthe dendrophila (Bl.) K. Schum., WT 11137, 12429, 12687, 12821, 12853

BIXACEAE

Bixa orellana L., SR, Haia

BOMBACACEAE

Camptostemon schultzei Mast., C&S 799, Purari

BORAGINACEAE

Cordia subcordata Lam., C&S 872, Purari, det. collectors

Cynoglossum bellwigii Brand, WT 12255

Tournefortia minutiflora Riedl, cited in Riedl (1996)

Tournefortia sarmentosa Lamk., SR, Haia

Trigonotis inoblita E.v.M. var. *inoblita*, WT 12032, 12087, 12834

BURSERACEAE

Canarium acutifolium (DC.) Merr. var. *acutifolium*, LAE 61090, Purari, det. Leiden

Canarium cf. *asperum* Benth., SR, O-Pio

Canarium maluense Laut. ssp. *maluense*, SR; cf. C&S 699, S&C 4393, det. Leiden

Canarium vitiense A. Gray, WT 11250,
11894, 12294, 12078

Canarium sp. nov., WT 11886

CANNABIDACEAE

Cannabis sativa L., SR, cultivated

CAPPARACEAE

Capparis lanceolaris Lesch. ex Steud., GW
814, det. GW

CAPRIFOLIACEAE

Sambucus canadensis L., WT 12074

CARDIOPTERIDACEAE

Cardiopteris moluccana Bl., SR; cf. C&S 845,
Purari, det. Leiden

CARICACEAE

Carica papaya L., SR, ?naturalized Maimafu
area, also cult.

CARYOPHYLLACEAE

Drymaria conlata (L.) Willdenow ex Roemer
& Schult., WT 12001, 12566

Stellaria media L., WT 12763

CASUARINACEAE

Casuarina cf. *oligodon* L.A.S. Johnson, WT
12243

Gymnostoma papuana (S. Moore) L.A.S.
Johnson, WT s.n.

CECROPIACEAE

Poikilospermum inaequale Chew, AM 542;
WT 12100, 12365, 12729

Poikilospermum pacianum (Winkler) Merr.,
AM 215; WT 11158

CELASTRACEAE

Celastrus monospermoides Loes., WT 12351,
12356

Celastrus novoguineensis Merr. & Perry, WT
12238, 12524, 12616

Lophopetalum sp., WT 12046

Perronetia alpestris (Bl.) Loes. ssp. *moluccana*
(Bl.) Ding Hou, WT 12775

Salacia sororia Miq., WT 12037

Siphonodon celastrineus Griff., SR, Pio; cf.
S&C 4393, Gulf

CHLORANTHACEAE

Ascarina philippinensis C.B. Robinson, WT s.n.

Ascarina subsessilis Verdcourt, SR, Maimafu;
ID from sessile leaves

Chloranthus erectus (Buch.-Ham.) Verdcourt,
WT 12004

CHRYSOBALANACEAE

Marantbes corymbosa Bl., SR, Pio

Parastemon versteeghii Merr. & Perry, SR, Pio

Parinari papuana C.T. White, WT 11890

CLUSIACEAE (GUTTIFERAE)

Calophyllum 'goniocarpum complex' sensu
Stevens, WT 11836, 12874

Calophyllum papuanum Laut., AM 254

Calophyllum sil Laut., WT 12874

Calophyllum suberosum Stevens, C&S 832,
Purari, det. Stevens

Garcinia archboldiana A.C. Smirh, WT
10494, 12407

Garcinia celebica L., WT 11906; S&C 4218,
det. Stevens

Garcinia aff. *celebica* L., WT 12561, 12866,
12941

Garcinia dulcis (Roxb.) Kurz, WT 11981,
12084

Garcinia fusiformis Stevens, AM 296

Garcinia bollringii Laut., WT 11973, 12041

Garcinia aff. *bunsteinii* Laut., WT 11797

Garcinia aff. ?*jaweri* Laut., WT 12047

Garcinia cf. *klinkii* Laut., WT 12792

Garcinia latissima Miq., AM 40; S&C 4454,
E. Purari; WT 12311

Garcinia ledermannii Laut., WT 11980

Garcinia maluensis Laut., WT 11255, 11716,
11887

Garcinia mammeoides Kosterm., WT 11247

Garcinia warrenii F.v.M., WT 12618

Garcinia sp. A, unplaced aff., WT 12282,
12964

Garcinia sp. B, unplaced aff., WT 12651,
12943

Mammea papuana (Laut.) Kosterm., WT
11905, det. Stevens

COMBRETACEAE

Quisqualis indica L., WT 11996

Terminalia complanata K. Schum., AM 240

Terminalia impediens Coode, SR; cf. S&C
4310, det. Coode

Terminalia kaernbachii Warb., WT 11983,
12016

Terminalia cf. *macadamii* Exell, WT 12037

Terminalis microcarpa Decne subsp. *microcarpa*,
S&C 4509, E. Purari, det. Coode

CONVOLVULACEAE

Erycibe carrii Hoogl., WT 12619

- Erycibe bollrungii* Hoogl., WT 11762
Ipomoea batatas (L.) Lamk, SR, cultivated
Merremia sp., (probably) *peltata* (L.) Merr.,
 SR, Haia-Pio
- CORYNOCARPACEAE**
Corynocarpus cribbianus (F.M. Bailey) L.S.
 Smith, SR, Pio; cf. S&C 4452, Purari,
 det. Molloy
- CUCURBITACEAE**
Cucumis sativus L., SR, cultivated
Luffa cylindrica (L.) Roemer, C&S 843,
 Purari, det. Frodin
Zehneria mucronata (Bl.) Miq., WT 11813
- CUNONIACEAE**
Acsmitbia sp., SR, upper Maimafu
Caldcluvia celebica (Bl.) Hoogl., WT 12214
Caldcluvia nymanii (K. Schum.) Hoogl.,
 WT 12772
Pullea glabra Schltr. var. *glabra*, WT 12257;
 typical form
Pullea glabra Schltr. var. *glabra*, WT 12770;
 abberant form, cf. 'perryana'
Schizomeria ilicina (Ridl.) Schltr., WT 12813
Schizomeria (probably) *parvifolia* Perry, SR,
 upper Maimafu, sterile
Weinmannia sp., SR, Maimafu, sterile
- DATISCAEAE**
Octomeles sumatrana Miq., SR, Pio
- DICHAPETALACEAE**
Dichapetalum papuanum (Becc.) Boerl., WT
 11878
Dichapetalum sessiliflorum Leenh., WT 11849
Dichapetalum (probably) *timoriense* (DC.)
 Boerl., cf. S&C 4427, det. Leiden
- DILLENIACEAE**
Dillenia castaneifolia (Miq.) Diels, SR; cf.
 S&C 4370, det. Hoogland
Dillenia schlechteri Diels, WT 12310, 12867
Tetracera nordiana E.v.M. var. *moluccana*
 (Mart.) Hoogl., SR on sp., Haia-Pio; cf.
 S&C 4365 for var.
- DIPTEROCARPACEAE**
Vatica papuana Dyer, SR, Pio
- EBENACEAE**
Diospyros cf. *elliptica* (J.R. & G. Forst.) P.S.
 Green, WT 11850, 12014, 12663,
 12839
- Diospyros forrea* (Willdenow) Bakh., s.l., WT
 11986
Diospyros bebecarpa A. Cunn. ex Benth., WT
 12764
- ELAEAGNACEAE**
Elaeagnus triflora Roxb. var. *triflora*, WT
 12581
- ELAEOCARPACEAE**
Aceratium ledermannii Schltr., WT 11840,
 12919
Aceratium muellerianum Schltr., WT 12079
Aceratium oppositifolium DC., WT 12099
Elaeocarpus culminicola Warb., WT 12098
Elaeocarpus dolichodactylus Schltr., SR, Pio;
 cf. S&C 4326, 4401, det. Coode
Elaeocarpus ledermannii Schltr., SR, Pio; cf.
 Pullen 6455 near Purari R.
Elaeocarpus lingualis Knuth, WT 11672,
 'sepikannus complex'
Elaeocarpus multisectus Schltr., S&C 4446,
 E. Purari R.; also NGF 41138, Purari
 R., dets. Coode
Elaeocarpus nonbursyii Koorders, S&C 4463,
 E. Purari R., det. Coode
Elaeocarpus polydactylis Schltr., WT 12622
 (fr), Coode's 'group 4'
Elaeocarpus (closest to) *schlechteranus* A.C.
 Smith, WT 12538, possible sp. nov.
Elaeocarpus sepikannus Schltr., s.l., AM 311
Elaeocarpus sericoboides A.C. Smith, GW 809,
 det. GW
Elaeocarpus sphaericus (Gaertn.) K. Schum.,
 WT 11942
Elaeocarpus sp., 'sepikannus complex', WT
 12842 (fr), can't separate spp. with fruits
Elaeocarpus sp., 'sphaericus-altisectus group',
 WT 12942 (fr), can't separate without
 flowers
Sericolea micans Schltr., WT 12374
Sloanea cf. *nymanii* K. Schum., WT 12766,
 but leaf size atypical
Sloanea aff. *pulleniana* Coode, AM 669
Sloanea forbesii E.v.M., GW 732, det. GW
- ERICACEAE**
Dimorphantbera aff. *anchorifera* J.J.Sm., WT
 12822
Dimorphantbera brevipes Schltr., WT 11721;
 det. P.F. Stevens

- Dimorphanthera decockii* J.J. Sm. var. *chlorocarpa* (Sleumer) Sleumer, WT 12184, 12403
- Dimorphanthera* cf. *elegantissima* K. Schum. var. *splendens* (Sleumer) Stevens, WT 12041, 12305, 12406
- Dimorphanthera kempteriana* Schltr., WT 12147, 12937, 11783; det. Stevens
- Dimorphanthera viridiflora* Stevens, pers. com. P.F. Stevens
- Gaultherieae* indet., ?*Gaultheria*, WT 12451, could be new
- Rhododendron dielsianum* Schltr. var. *dielsianum*, WT 12252, 12450, 12845
- Rhododendron macgregoriae* F.v.M. var. *macgregoriae*, WT 12420, 12514, 12555, 12625-A/B, 12800
- Rhododendron multinervium* Sleumer, WT 12026
- Rhododendron phaeochitum* F.v.M., WT 12278
- Rhododendron scabridibracteum* Sleumer, WT 12314
- Rhododendron zoelleri* Warb., WT 11239
- Vaccinium acrobacteatum* K. Schum., WT 12318
- Vaccinium carneolum* Sleumer, WT 12316
- Vaccinium cyclopense* J.J. Sm. f. *cyclopense*, WT 12381
- Vaccinium finisterrae* Schltr., WT 12378
- EUPHORBIACEAE**
- Acalypha grandis* Benth., AM 211
- Acalypha bellwigii* Warb., WT 11197, 12629, 12672, 12675
- Antidesma olivaceum* K. Schum., WT 12074
- Antidesma* aff. *rhynchophyllum* K. Schum., WT 11287, 11715; no result on Airy Shaw
- Antidesma* cf. *sarcocarpum* Airy Shaw, WT 11257, ?'jucundum-concinnum group'
- Aporosa lamellata* Airy Shaw, WT 11826
- Aporosa petiolaris* Airy Shaw, WT 12001
- Baccaurea papuana* F.M. Bailey, WT 12563, 12948; also LAE 61083, Purari River, det. Dockrill
- Bischofia javanica* Bl., SR, Pio; cf. S&C 4688, det. Leiden
- Blumeodendron tokbrai* (Bl.) Kurz, WT 13009
- Breynia cernua* (Poir.) Muell.-Arg., WT 11691, 12506
- Breynia vestita* Warb., WT 12798
- Claoxylon lutescens* Pax & Hoffm., WT 12258, 12574-A, 12992
- Claoxylon* cf. *microcarpum* Airy Shaw, WT 11844; 'ledermannii-microcarpum group'
- Claoxylon* sp., 'Purpurascensia group', AM 598
- Codiaeum variegatum* (L.) Bl. var. *moluccanum* (Decne.) Muell.-Arg., WT 11191, 12702
- Drypetes* aff. *lasiogynoides* Pax & Hoffm., WT 12082, 12083
- Endospermium labios* Schodde, WT 11803
- Euphorbia plumerioides* Teijsm. ex Hassk. var. *acuminata* J.J. Sm., WT 12702
- Excoecaria indica* (Willdenow) Muell.-Arg., WT s.n.; NGF 41139, Purari R.
- Galearia celebica* Koorders var. *celebica*, SR; cf. S&C 4240, det. Leiden
- Glochidion chlanydogyne* Airy Shaw, or aff., WT 11211
- Glochidion delticola* Airy Shaw, S&C 4504, E. Purari R., det. Leiden list
- Glochidion fulvirameum* Miq., or aff., WT 12632, 12778
- Glochidion mitrastylum* Airy Shaw, AM 650
- Glochidion novo-guineense* K. Schum., AM 590; WT 12231, 12635
- Glochidion perakense* Hook. f. var. *supra-axillare* (Benth.) Airy Shaw, AM 619
- Glochidion* sp. nov.; aff. *caloneurum* Airy Shaw, WT 11303, 11796
- Macaranga alauritoides* F.v.M., GW 755, 756, det. GW
- Macaranga angustifolia* Laut. & K. Schum., WT 11238
- Macaranga chrysotricha* Laut. & K. Schum., WT 12204, 12264
- Macaranga ducis* Whitmore, WT 12087
- Macaranga* cf. *ducis* Whitmore, WT 12088
- Macaranga fallacina* Pax & Hoffm., WT 11934
- Macaranga papuana* (J. J. Sm.) Pax & Hoffm. var. *glabristipulata* Whitmore, AM 609
- Macaranga pleiostemon* Pax & Hoffm., WT 12208, 12962
- Macaranga quadriglandulosa* Warb., WT 11752
- Macaranga reiteriana* Pax & Hoffm., WT 12262, 12274, 12507

Macaranga tanarius (L.) Muell.-Arg., GW 722, det. GW

Macaranga sp.; aff. *?hoffmannii* Perry, WT 12558, 12515; sp. dubiae Whitmore

Mallotus didymochrysen Airy Shaw, LAE 61115, Purari R., det. Airy Shaw

Mallotus paniculatus (Lam) Muell.-Arg., WT 11771, 12266

Mallotus sp. nov.: § *Mallotus*, WT 12159, 12454

Manibot esculenta Crantz, WT 12795-B

Ocotepermum pleiogynum (Pax & Hoffm.) Airy Shaw, SR, Haia

Omalanthus novo-guineensis (Warb.) K. Schum., WT 11713, 12259

Phyllanthus ciccoides Muell.-Arg., WT 12247, 12281, 12809

Phyllanthus cf. *ciccoides* Muell.-Arg., WT 12263

Phyllanthus clambooides (E.v.M.) Diels, WT 11148

Phyllanthus flaviflorus (Laut. & K. Schum.) Airy Shaw, WT 12210, 12572, 12707

Phyllanthus rheophilus Airy Shaw, SR, Haia

Phyllanthus (closest to) *rubriflorus* J.J. Sm., WT 11259

Phyllanthus urinaria L., WT 12676

Pimelodendron ambainicum Hassk., WT 11995

Ricinus communis L., SR, naturalized Maimafu area

EUPOMATIACEAE

Eupomatia laurina R. Br., WT 11698, 12043

FAGACEAE

Castanopsis acuminatissima (Bl.) A. DC., SR, Maimafu

Lithocarpus celebicus (Miq.) Rehder, WT s.n., carpological coll.

Lithocarpus lauterbachii (von Seemen) Markgraf, WT 13010

Lithocarpus rufovillosus (Markgraf) Rehder, WT 11944, 12219, 12472, 12777

Lithocarpus schlechteri Markgraf, WT 12306

Lithocarpus cf. *schlechteri* Markgraf, WT 11718

FLACOURTIACEAE

Casearia clutiaeifolia Bl., WT 12125

Casearia cf. *clutiaeifolia* Bl., WT 12042

Casearia greviaefolia Vent., or aff., WT 12835

Casearia cf. *papuana* Sleumer, WT 11805, 12699; possibly *C. clutiaeifolia*

Casearia ripicola Sleumer, or aff., WT 12162

Flacourtia rukam Zoll. & Mor., WT 13011

Homalium foetidum (Roxb.) Benth., WT s.n.

Osmelia philippina (Turcz.) Benth., SR, Pio; cf. S&C 4214, 4282, det. Leiden

Pangium edule Reinw., AM 356, 629; WT 12002, 12744

Ryparosa calotricha Mildbr., WT 12008

Trichadenia philippinensis Merr., WT s.n.

Xylosma papuanum Gilg., WT 12685, det. Damas

GESNERIACEAE

Aeschynanthus spp., WT 11112, 11113, 11266, 11961

Cyrtandra bracteata Warb., WT 11162, 11299

Cyrtandra cf. *decurrens* de Vriese, WT 11151

Cyrtandra aff. *?elata* Schltr., WT 11270

Cyrtandra fusco-vellea K. Schum., WT 11181, 11196, 11273, 11703

Cyrtandra hispidissima Schltr., WT 11157

Cyrtandra cf. *janowskyi* Schltr., WT s.n.

Cyrtandra sp. A, § *Centrosiphon*, WT 11176, 11230, 12163

Cyrtandra sp. B, § *Centrosiphon*, WT 11275, 11294, 12914

Cyrtandra sp. C, § *Centrosiphon*, WT 11267, 11276, 11292, 12996

Cyrtandra sp. D, § *Centrosiphon* or *Loxanthe*, WT 11289, 12711

Cyrtandra sp. E, § *Diplochiton*, WT 12149

Cyrtandra sp. F, cf. § *Diplochiton*, WT 11209, 11245, 11274, 12358

Cyrtandra sp. G, § *Geodesme*, WT 12776

Cyrtandra sp. H, § *Geodesme*, WT 12027, 12141, 12492

Cyrtandra sp. I, § *Leucocyrtandra*, WT 12052, 12138, 12346

Cyrtandra sp. J, (*Cyrtandropsis*), § *Leucocyrtandra*, WT 11282, 11960, 12854

Cyrtandra sp. K, (*Cyrtandropsis*), cf. § *Leucocyrtandra*, WT 11265

Cyrtandra sp. L, § *Loxophyllum*/*Phaeotrichium*, WT 11170, 11183

Cyrtandra sp. M, § *Macrocyrtandra*, WT 11293

Cyrtandra sp. N, § Prosthecisiphon, WT 12708

Cyrtandra sp. O, § Rhabdocyrtandra, WT 11174, 11291, 11769

Cyrtandra sp. P, unplaced, WT 12091, 12477

Cyrtandra sp. Q, unplaced, WT 11172 (*filibracteata* facies)

Cyrtandra sp. R, unplaced, WT 12092

Dicbrotrichum spp., or as *Agalmyla*, WT 11128, 11226, 11708, 11807

Rhynchotechum discolor (Maxim.) B.L. Burtt, WT 12671, 12735

GOODENIACEAE

Scaevola oppositifolia R. Br., WT 11138, 12593, 12983

GROSSULARIACEAE

Carpodetus arboreus (Laut. & K. Schum.) Schltr., AM 616

Polyosma aff. *amygdaloides* Reeder, WT 12073, 12386, keys to *P. steuosisiphon* but not that sp.

Polyosma 'cestroides-induta group', SR, Maimafu

Polyosma forbesii Valetton, or aff., WT 11249, 11841

HALORAGACEAE

Gonocarpus balconensis (Merr.) Orchard, SR, upper Maimafu

Gunnera macrophylla Bl., WT 12183

HERNANDIACEAE

Hernandia ovigera L., SR, Pio; cf. C&S 758, det. Croft

HYDRANGEACEAE

Dichroa febrifuga Lour., WT 12559, 'sylvatica complex'

ICACINACEAE

Citronella suaveolens (Bl.) Howard, WT 11739, 12036

Gomphandra montana (Schellenb.) Sleumer, AM 431; WT 11280, 11937

Gomphandra sp., 'australiana-montana group', WT 12692; flowers required to differentiate

Gonocaryum litorale (Bl.) Sleumer, WT 12652

Platea excelsa Bl. var. *borneensis* (Heine) Sleumer, WT 11815, 12132

Pseudobotrys cauliflora (Pulle) Sleumer, or

P. dorae Moeser, WT 12771; flowers required to differentiate

Rhynchocaryum longifolium K. Schum. & Laut., WT 11670, 12113, 12222, 12419, 12575, 12731-B

Stemonurus monticolus (Schellenb.) Sleumer, WT 13012

LAMIACEAE

Plectranthus scutellarinoides (L.) R. Br., LAE 66358, det. Henty

LAURACEAE

Aseodaphne umbelliflora (Bl.) Hooker f., WT 12012

Beilschmiedea cf. *schoddei* Kosterm., WT 11198, 11814

Cryptocarya aff. *aureosericea* Kosterm., WT 11799

Cryptocarya cf. *depressa* Warb., WT 11922

Cryptocarya aff. *depressa* Warb., WT 11862

Cryptocarya aff. *multipaniculata* Teschn., WT 11202

Endiandra forbesii Gamble, WT 13013

Endiandra magnilimba Kosterm., WT 11920, 12007

Endiandra cf. *papuana* Laut.; 'papuana-glanca group', WT 11251, 12040

Litsea calophyllantha K. Schum., WT 11699

Persea americana Mill., SR, Maimafu, cultivated

LEEACEAE

Leea coryphantha Laur., WT 11731

Leea (close to) *heterodoxa* K. Schum. & Laut., WT 12949; 'coryphantha-heterodoxa group'

Leea heterodoxa K. Schum. & Laut., LAE 66334, Purari River; det. Leiden

Leea indica (Burm. f.) Merr., AM 486; WT 11738, 12633

LEGUMINOSAE/CAESALPINIACEAE

Caesalpinia crista L., C&S 808, Purari, det. Leiden

Cassia alata L., SR, Haia-Pio

Crudia papuana Kosterm., C&S 804, Purari, det. Verdcourt

Intsia bijuga (Colebr.) O. Kuntze, SR, Haia-Pio; cf. S&C 4545, det. collectors

Kingiodendron sp., SR, Pio

Maniltoa schefferi K. Schum. & Hollrung, SR, Haia-Pio; cf. S&C 4406, det. Verdcourt

LEGUMINOSAE/FABACEAE

Agnopoe heptaphylla (L.) Polhill, S&C 4464.

E. Purari, det. Verdcourt

Arachis hypogaea L., SR, cultivated

Crotalaria lanata Beddome, WT 12018

Crotalaria sp., (possibly) *pallida* Aiton, cf. C&S 811, E. Purari, det. Verdcourt

Dalbergia albertisii Prain, C&S 830, Purari, det. Verdcourt

Dalbergia beccarii Prain, S&C 4491, E. Purari, det. Verdcourt

Derris cf. *cuneifolia* Grah. ex Benth. (sensu Verdcourt), WT 11939

Derris trifoliata Lour., C&S 815, E. Purari, det. Verdcourt

Desmodium laxum DC., WT 11773

Desmodium repandum (Vahl) DC., WT 12244, 12803

Desmodium sequax Wall., WT 12573, 12607

Desmodium umbellatum (L.) DC., SR; cf. C&S 724, S&C 4556, det. Leiden

Desmodium sp., (possibly) *D. heterocarpon* (L.) DC., cf. var. *strigosum* in C&S 740, S&C 4512

Gliricidia sepium (Jacq.) Walp., SR, cultivated

Inocarpus fagifer (Parkinson) Fosb., C&S 795, Purari, det. Leiden

Inocarpus sp. nov., 'rubidus morphospecies' sensu Verdcourt, WT 11139, 12054

Macropyschanthus lauterbachii Harms, WT 11839

Mucuna aff. ?*lamii* Verdcourt, WT 11837 (fl), key uncertain without fruit

Mucuna novo-guineensis Scheffer, SR; cf. LAE 61103, Purari; S&C 4400

Phaseolus vulgaris L., SR, cultivated

Pongamia pinnata (L.) Pierre, C&S 828, 867, Purari, det. collectors

Pterocarpus indicus Willdenow, SR; cf. S&C 4249; C&S 869, det. collectors

Strongylodon decipiens Verdcourt, WT 11131

Tephrosia vogelii Hook. f., WT 12016

Tephrosia sp., (possibly) *vestita* Vog., SR; cf. the sp. in C&S 905, det. Verdcourt

LEGUMINOSAE/MIMOSACEAE

Entada phaeocoloides (L.) Merr., WT s.n., carpological

Mimosa pudica L., SR, Haia & Maimafu

Paraserianthes falcataria (L.) Nielsen, SR; cf. S&C 4242, det. Nielsen

LINACEAE

Hugonia jenkinsii F.v.M., WT s.n.

LOGANIACEAE

Fagraea amabilis S. Moore, WT 11695

Fagraea berteriana A. Gray ex Benth., WT 12790

Fagraea ceilanica Thunb., AM 662

Fagraea elliptica Roxb., SR, O-Pio

Fagraea racemosa Jack ex Wall., SR, O-Pio

Fagraea woodiana F.v.M., SR, Wara Navarah

Geniostoma rupestre J.R. & G. Forst., WT 11907

Geniostoma weinlandii K. Schum., WT 12012, 12071, 12416

Neuburgia celebica (Koorders) Leenh., S&C 4451, 4507, Purari R., det. Conn

Neuburgia corynocarpa (A. Gray) Leenh., AM 507; WT 12830

Neuburgia kochii (Valeton) Leenh., WT 11225, 11706

Strychnos minor Bl., GW 799, det. GW; cf. also S&C 4394

LORANTHACEAE

Amyema friesiana (K. Schum.) Danser, WT 12295

Amyema rigidiflora (K. Krause) Danser, WT 11869

Amyema squarrosa (K. Krause) Danser, WT 12578, 12883

Dactylophora verticillata (Scheffer) Tiegh., WT 11954

Decaisnina bollrungii (K. Schum.) Barlow, WT 12236, 12541

Dendrophthoe curvata (Bl.) Miq., SR, Haia

Macrosolen geminatus (Merr.) Danser, WT 12828

MAGNOLIACEAE

Elmerrillia tsiampaica (L.) Dandy ssp. *tsiampaica* var. *tsiampaica*, AM 237, 392; WT 11976, 12691

Magnolia candollii (Bl.) H. Keng var. *candollii*, WT 12585, 12650

MALPIGHIACEAE

Rynopterys timorensis (DC.) Jussieu var. *discolor* (Gand.) Jacobs, WT 12564

MALVACEAE

- Hibiscus archboldianus* Borss., WT 11194, 12086
Hibiscus tiliacens L., SR; cf. C&S 730; S&C 4522, det. collectors
Thespesia populnea (L.) Sol. ex Corr., WT 11971
Urena lobata L., WT 12459

MELASTOMATACEAE

- Catantbera lysipetala* E.v.M., WT 11302
Crocothiton novoguineensis (Baker f.) Veldk. & Nayar, WT 12038
Disochaeta angiensis Ohwi, WT 11200, 11220
Heteroblemma sp., WT 11242
Medinilla aff. *albida* Merr. & Perry, WT 12530
Medinilla aff. *compacta* Bakh. f., WT 11169
Medinilla crassinervis Bl., AM 622; WT 11675, 12044, 13000
Medinilla dentata Veldk., WT 12068
Medinilla 'ramiflora' group, WT 12373; keys to Mansfeld's spp. 14-16
Medinilla rubrifructus Ohwi, AM 665; WT 11241
Medinilla sogerensis Bak. f., or aff., WT 12375
Medinilla venipedicellata Bak. f., WT 11782, 12057, 12083
Medinilla teysmannii Miq., WT 12077, 12098
Medinilla aff. *versteegii* Mansf., WT 11114
Memecylon 'hepaticum' sensu Mansf., WT 12189, 12557; keys to *hepaticum*
Memecylon cf. *schradenbergense* Mansf., WT 11219, 11895, 12957
Memecylon torricellense Mansf., WT 12045
Ochthocharis bornensis Bl., SR, Pio; cf. S&C 4200, det. Hansen
Otanthera bracteata Korth., WT 12102
Otanthera cyanoides Triana, WT 11129, 12007, 12609
Poikilogyne multiflora Maxw., WT 12140, 12644
Poikilogyne cf. *robusta* Mansf., WT 12034, 12391-A, 'robusta-macrophylla'
Poikilogyne villosa Maxw., WT 11692

MELIACEAE

- Aglaia* (nearest) *agglomerata* Merr. & Perry, AM 700

- Aglaia agglomerata* Merr. & Perry, WT 11879, 11902, 12062
Aglaia argentea Bl., WT 11956, 12025
Aglaia lepidopetalata Harms, WT 11851
Aglaia rimosa (Blanco) Merr., WT 12782
Aglaia sapindina (E.v.M.) Harms, WT 11187, 11700
Aglaia subminutiflora C. DC., WT 11809, 11919
Aglaia cf. *subminutiflora* C. DC., WT 12882, 12956; atypical indumentum
Aglaia tomentosa Teijsm. & Binn., WT 11991, 12049
Aglaia aff. *tomentosa* Teijsm. & Binn., WT 11776
Aglaia sp. ?nov., aff. 'grandis-ramotricha group', AM 695
Aglaia sp., (possibly) *A. silvestris* (Roemer) Merr., cf. C&S 798, Purari
Antbocarapa nitidula (Benth.) T.D. Penn. ex Mabb., WT 11952, 12058
Aphanamixis polystachya (Wall.) R.N. Parker, SR; cf. S&C 4297
Chisocheton ceramicus (Miq.) C. DC., WT 11916, 12060
Chisocheton lasiocarpus (Miq.) Valetton, WT 11966, 11998; entity 'weinlandii'
Chisocheton lasiocarpus (Miq.) Valetton, WT 11938; entity 'caroli'; = *C. caroli* Harms
Chisocheton sayeri (C. DC.) Stevens, LAE 61176, Purari R., det. Stevens
Chisocheton stellatus Stevens, WT 11975
Dysoxylum arboreum (Bl.) Miq., SR; cf. C&S 788, Purari, det. Mabblerley
Dysoxylum excelsum Bl., or aff. 'alliaceum group', WT 11891, 11897, 12013
Dysoxylum gaudichaudianum (A. Juss.) Miq., LAE 61125, Purari R., det. Leiden
Dysoxylum inopinatum (Harms) Mabb., WT 11912
Dysoxylum cf. *kaniense* Harms, WT 11732, 12946
Dysoxylum mollissimum Bl. ssp. *molle* (Miq.) Mabb., WT 12646
Dysoxylum papuanum (Merr. & Perry) Mabb., WT 11993
Dysoxylum parasiticum (Osb.) Kosterm., WT 11733, 12174, 12954
Dysoxylum pettigrewianum E.M. Bailey, WT 11923; LAE 66295

- Dysoxylum ?randianum* Merr. & Perry, or aff., WT 12562
Dysoxylum setosum (Span.) Miq., WT 12126, 12591
Dysoxylum cf. *sparsiflorum* Mabb., WT 11829
Dysoxylum variabile Harms, WT 11694, 12021, 12291, 12739, 12982
Dysoxylum aff. *variabile* Harms, WT 12101
Vavaea amicorum Benth., WT 12103
Xylocarpus granatum Koen., S&C 4484, E. Purari, det. Leiden
Xylocarpus moluccensis (Lam.) M. Roem., S&C 4483, E. Purari, as *X. australasicus*

MENISPERMACEAE

- Arxangelisia tympanopoda* (Laut. & K. Schum.) Diels, WT s.n., carpological coll.
Cblaenandra ovata Miq., LAE 61110, Purari R., det. Forman
Legnephora minutiflora (K. Schum.) Diels, WT 11948
Stephania japonica (Thunb.) Miers var. *japonica*, WT 12887
Stephania japonica (Thunb.) Miers var. *timoriensis* (DC.) Forman, WT 12680
Stephania zippeliana Miq., WT 11212, 12464
Tinomisium petiolare Hook. f., WT 12096
Tinospora dissitiflora (Laut. & K. Schum.) Diels, WT 11853

MONIMIACEAE

- Kibara arbboldiana* A.C. Smith, LAE 66299, Wabo dam site, det. Philipson
Kibara cf. *papuana* A.C. Smith, WT 12722, 12728, 'coriacea-papuana group'
Levieria (closest to) *acuminata* (E. v. M.) Perkins, WT 12550
Levieria montana Becc., WT 12417
Levieria nitens Perkins, WT 12494
Palmeria brassii Philipson, WT 12595
Palmeria gracilis Perkins, AM 376
Palmeria gracilis Perkins var. ?nov., WT 12431; nonconformist indumentum
Stegantbera hirsuta (Warb.) Perkins, WT 12164, 12923
Stegantbera hospitans (Becc.) Kanehira & Harusima, WT 11795
Stegantbera sp. nov., aff. 'myrmecophilous group', WT 12742

MORACEAE

- Ficus adenosperma* Miq., AM 209; GW 808, det. GW
Ficus amblysece Corner, AM 408, det. GW
Ficus ampelae Burm. f., GW 713, det. GW
Ficus arbuscula Laut. & K. Schum., WT 12093
Ficus arbboldiana Summerh., GW 764, det. GW
Ficus arfakensis King, GW 780, det. GW
Ficus augusta Corner, GW 791, det. GW
Ficus aurita Bl., GW 714, det. GW
Ficus bernaysii King, GW 712, 728, 784, det. GW
Ficus botryocarpa Miq., GW 753, det. GW
Ficus caesaroides King, Dudson s.n., det. GW
Ficus comitis King, GW pers. comm.
Ficus congesta Roxb., GW 720, 818, det. GW
Ficus congesta Roxb. var. *chalmersii* (King) Corner, GW 711, det. GW
Ficus copiosa Steud., AM 501, det. GW
Ficus crassiramea Miq., GW 805B, det. GW
Ficus dammaropsis Diels, AM 273, 313, det. GW; WT s.n.
Ficus distichoidea Diels, GW pers. comm.
Ficus edelfeltii King, GW pers. comm.
Ficus erythrosperma Miq., GW 736, det. GW
Ficus glaberrima Bl., WT 12051
Ficus gul Laut. & K. Schum., WT 13014
Ficus habtiana Diels, GW pers. comm.
Ficus bonobroniana Corner, GW pers. comm.
Ficus bomodrama Corner, WT 11827
Ficus indotricha Diels, GW pers. comm.
Ficus irritans Summerh., GW pers. comm.
Ficus itoana Diels, WT 11121
Ficus macrorrhyncha Laut. & K. Schum., GW pers. comm.
Ficus megalophylla Diels, GW 776, det. GW
Ficus microcarpa L. f., GW pers. comm.
Ficus mollior E.v.M. ex Benth., WT 11679; also GW pers. comm.
Ficus mollior E.v.M. ex Benth. var. *sessilis* Corner, LAE 66331, Purari River, det. Corner
Ficus nasuta Summerh. var. *glabrata* Corner, GW 792, det. GW
Ficus nodosa Teysm. & Binn., WT 11987; LAE 61098, Purari, det. Corner

Ficus ochraceblossa Ridl., GW 735, 752, det. GW
Ficus odoardi King, GW 718, 782, 793,
 det. GW; WT 11864

Ficus aff. *ovatacuta* Corner, WT 11834, ?sp.
 nov., does not key

Ficus pachyrrhachis Laur. & K. Schum., GW
 pers. comm.

Ficus pachysycea Diels ex Corner, GW pers.
 comm.

Ficus phaeosyce Laut. & K. Schum., pers.
 comm. GW based on JE 18 & 30 at A

Ficus phatuphylla Diels, GW pers. comm.

Ficus polyantha Warb., GW pers. comm.

Ficus pseudojaca Corner, GW pers. comm.

Ficus pungens Reinw. ex Bl., GW 717, 750,
 det. GW

Ficus robusta Corner, GW pers. comm.

Ficus scratchleyana King, GW 800, det. GW

Ficus scratchleyana King var. *rhopalosycea*
 (Diels) Corner, GW pers. comm. based
 on JE 27 at A

Ficus semivestita Corner, GW pers. comm.

Ficus septica Burm. f., LAE 61123, Purari
 R., det. Corner

Ficus sterrocarpa Diels, GW 709, 715, det. GW

Ficus sterrocarpa Diels var. *pubigenma* Diels,
 GW 734, det. GW

Ficus sterrocarpa Diels var. *sterrocarpa*, GW
 715, det. GW

Ficus subcuneata Miq., AM 207, det. GW

Ficus sublimbata Corner, WT 11123

Ficus subulata Bl., GW 779, 805A, det. GW

Ficus subulata Bl. var. *gracillima* (Diels)
 Corner, GW 801, det. GW

Ficus tenella Corner, GW pers. comm.

Ficus ternatana Miq., GW pers. comm.

Ficus trachypison K. Schum., AM 536; GW
 721, det. GW

Ficus trichocerasa Diels, GW pers. comm.

Ficus virgata Reinw. ex Bl., GW pers. comm.

Ficus wassa Roxb., GW 796, det. GW

Ficus xylasycia Diels var. *cylindrocarpa* (Diels)
 Corner, WT 11189

Ficus sp., sect. *Conosycea*, GW pers. comm.

Ficus sp., sect. *Rhizocladus*, GW pers. comm.

MYRISTICACEAE

Endocomia macrocoma (Miq.) de Wilde subsp.
prainii (King) de Wilde, WT 11958,
 12003, 12057

Gynnacranthera farquhariana (Hook. f. &
 Th.) Warb. var. *zippeliana* (Miq.) R.
 Schouten, WT 11908, 12050

Horsfieldia bellwigii (Warb.) Warb., WT
 13015A

Horsfieldia laevigata (Bl.) Warb., WT 13015B

Horsfieldia pulverulenta Warb., WT 11957

Horsfieldia subtilis (Miq.) Warb. var. *subtilis*,
 AM 661; WT 11883

Horsfieldia subtilis (Miq.) Warb. var. *aucta*
 de Wilde, WT 11674

Horsfieldia sylvestris (Houtt.) Warb., WT
s.n., sterile

Horsfieldia cf. *tuberculata* (K. Schum.) Warb.,
 WT 11892, 11940; possibly *H. bellwigii*

Myristica cornatiflora J. Sinclair, WT 11261,
 12000

Myristica cf. *cucullata* Markgraf, WT 13016

Myristica globosa Miq., WT 11254

Myristica aff. *globosa* Miq., WT 11144,
 11929

Myristica ingens (Foreman) W.J. de Wilde,
 WT 10251

Myristica cf. *inutilis* Rich. ex A. Gray subsp.
papuana (Markgraf) W.J. de Wilde, WT
 11865, 12067

Myristica subulata Miq., WT 11262

MYRSINACEAE

Ardisia aff. *squarrosa* Mez, WT 11281,
 11904, 12076, det. Pipoly

Liberia reiniana (Jacobs) Sleumer, WT 11921

Maesa haplobotrys E.v.M., WT 11855

Maesa protracta E.v.M., LAE 66330, Purari
 River

Myrsine aff. *acrostica* (Mez) Pipoly, WT
 11612, possible sp. nov., det. Pipoly

Myrsine leucantha (K. Schum.) Pipoly, WT
 11693, det. Pipoly

MYRTACEAE

Acmena acuminatissima (Bl.) Merr. & Perry,
 WT 12100

Decaspermum bracteatum (Roxb.) A.J. Scott,
 SR, Haia & Pio; cf. *S&C* 4373

Decaspermum exiguum Merr. & Perry, WT
 12582

Decaspermum neurophyllum Laut. & K.
 Schum., AM 625; WT 11216

Metrosideros ramiflora Laut., SR, Maimafu,
 also cult. by Maimafu villagers

- Octamyrtus bebrmannii* Diels, WT 11677
Octamyrtus pleiopetala (F.v.M.) Diels var. *pleiopetala*, WT 12424 (fr), 12617 (fl), 12759 (fl)
Rhodamnia latifolia (Benth.) Miq., WT 11231
Rhodomyrtus novoguineensis Diels, WT 12421
Syzygium acutangulum K. Schum., WT 12076
Syzygium buettnerianum (K. Schum.) Niedenzu, SR, Maimafu, possibly *S. subcorymbosum*
Syzygium calliantbum Merr. & Perry, WT 12193
Syzygium decipiens (Koordlers & Valetton) Merr. & Perry, or aff., WT 11767, 12118
Syzygium dictyophlebium Merr. & Perry, WT 11277
Syzygium effusum (A. Gray) C. Muell., WT 12173, 12844
Syzygium furfuraceum Merr. & Perry, SR, Maimafu
Syzygium cf. *hylochare* (Diels) Merr. & Perry, WT 12525, 'hylochare-phaeostictum group'
Syzygium iteophyllum Diels, or aff., WT 12698, 12947
Syzygium longipes Merr. & Perry, WT 12655
Syzygium malaccense (L.) Merr. & Perry, sensu lato, WT 11943, 12017, 12940, 12944
Syzygium megalospermum (Laut. & K. Schum.) Merr. & Perry, WT 11676, or aff. *megalospermum*
Syzygium porphyrocarpum (Greves) Merr. & Perry, WT 12000, 12497-A, 12877
Syzygium aff. *rosicum* Merr. & Perry, WT 11847, possible sp. nov.
Syzygium cf. *rubro-punctatum* (Ridl.) Merr. & Perry, or aff., WT 11235, 11719, 13004; ?new
Syzygium sabalatum (Ridl.) Merr. & Perry, WT 12075
Syzygium 'tierneyanum group', SR, Haia & Maimafu, with diffuse inflorescence
Syzygium trachyanthum (Diels) Merr. & Perry, or aff., WT 11990
Syzygium tympananthum (Diels) Merr. & Perry, WT 12598
Syzygium aff. *womersleyi* Hartley & Perry, WT 11258, possible sp. nov.
Xanthomyrtus spp., SR, Maimafu, sterile, more than one taxon

NEPENTHACEAE

- Nepenthes maxima* Nees, WT 12284, 12319
Nepenthes cf. *papuanua* Dans., WT 11779

NYCTAGINACEAE

- Pisonia longirostris* Teysm. & Binn., WT 12010
Pisonia umbellifera (Forst.) Seem., LAE 61114, Purari, det. Hyland

OCHNACEAE

- Schnuurmansia benningsii* K. Schum., WT 12129

OLACACEAE

- Anacolosia papuana* Schellenb., SR, near Pio
Olax imbricata Roxb., C&S 829, Purari

OLEACEAE

- Chionanthus riparius* (Lingelsh.) Kiew, WT 11909
Chionanthus ?sp. nov., aff. *salicifolius* (Lingelsh.) Kiew, WT 12965
Chionanthus sessiliflorum (Hemsl.) Kiew, WT 12921
Chionanthus aff. *sessiliflorum* (Hemsl.) Kiew, WT 11175
Jasminum sp. nov., WT 11866

ONAGRACEAE

- Ludwigia bysopifolia* (Don.) Exell, LAE 66357, det. Kerenga
Ludwigia octovalvis (Jacq.) Raven, WT 11751, 12818

PASSIFLORACEAE

- Passiflora foetida* L., SR, Haia & lower Maimafu; cf. S&C 4596

PENTAPHRAGMATACEAE

- Pentaphragma grandiflorum* Kurz, WT 11163

PIPERACEAE

- Peperomia* cf. *garakorana* Dull, 'purpurea group', WT 11818; matches L-annotated sheet
Peperomia laevifolia (Bl.) Miq., WT 12342
Peperomia pellucida (L.) Kunth, SR, Haia
Piper aduncum L., SR, Haia
Piper betle L., SR, cultivated
Piper caninum Bl., WT 12505
Piper celtidiforme Opiz, or aff., WT 12106, 12124
Piper gibbilibum C. DC., WT 12393, 12455; hirtellous form
Piper gibbilibum C. DC., WT 12268; typical glabrous form

Piper macropiper Pennant, WT 11683, 12109

Piper majusculum Bl., SR, Pio; cf. S&C 4331, det. Leiden

Piper mestonii Bailey, WT 12879; 'form *stenocarpum*'

Piper novo-guineensis Warb., WT 12090

Piper rolatzii K. Schum. & Laut., WT 11681, 12911

Piper subbullatum K. Schum. & Laut., AM 232; WT 11143

Piper subcanirameum C. DC., WT 11741

Piper triangulare Chew, WT 12211, 12273, 12553, 12892

Piper umbellatum L. var. *subpeltatum* (Willdenow) C. DC., AM 655; WT 11224

Piper versteegii C. DC., WT 12150

Piper wilhelmense Chew, SR, Maimafu

Piper sp. ?nov., WT 12453; unusual filiform peduncle

PITTOSPORACEAE

Pittosporum ferrugineum Aiton f. subsp. *ferrugineum*, WT 12670

Pittosporum pullifolium Burk., WT 11285, 11749

Pittosporum pullifolium ssp. *ledermannii* (Pritzl) Schodde var. *ledermannii*, WT 12539, 12580

Pittosporum sinuatum Bl., WT 11153, 11279

Pittosporum sinuatum Bl. var. *sinuatum*, WT 12177

POLYGALACEAE

Epirixanthes (probably) *papuana* J.J. Sm., SR, Maimafu

Polygala paniculata L., WT 12265-B

Securidaca ecristata Kassau, SR, Haia

Xanthophyllum papuanum Whitmore ex Meijden, WT 11764, 12032

POLYGONACEAE

Polygonum chinense L., WT 12009

PROTEACEAE

Helicia cf. *latifolia* C.T. White, WT 12035

RANUNCULACEAE

Clematis papuasica Merr. & Perry, SR, Pio; cf. S&C 4399, det. Tamura

Clematis phaneroplebia Merr. & Perry var. *simplicifolia* Tamura, WT 12390, 12567, 12780

Clematis phaneroplebia Merr. & Perry cf.

var. *tomentosa* Eichler, WT 11256

Ranunculus sp., SR, upper Maimafu

RHAMNACEAE

Alphitonia excelsa (Fenzl) Reiss. ex Endl., WT 12218; sensu Schirarend

Alphitonia macrocarpa Mansf., SR, Pio
Emmenosperma alphitonoides F.v.M., SR, Haia
Gouania javanica Miq., WT 11711

Rhamnus nipalensis (Wallich) Lawson ex Hook., WT 11690, 12,277, 12674, 12716, 12718

Ventilago ?papuana Merr. & Perry, SR, Pio
Zizyphus angustifolius (Miq.) Hatusima, WT 11985

Zizyphus djamuensis Laut., LAE 66318 near Wabo, det. Frodin

RHIZOPHORACEAE

Carallia brachiata (Lour.) Merr., SR, Pio; cf. S&C 4503

Gynotroches axillaris Bl., AM 428, 522; WT 12089

ROSACEAE

Prunus arborea (Bl.) Kalkman, SR, Haia
Prunus dolichobotrys (Laut. & K. Schum.) Kalkman, SR, Haia

Prunus gazelle-peninsulae (Kanehira & Hatusima) Kalkman, WT 12642, 12661, 12858

Prunus oligantha Kalkman, WT 12802

Prunus schlechteri (Koehne) Kalkman, AM 328

Rubus moluccanus L. var. *moluccanus*, WT 12022

Rubus rosifolius J.E Smith, WT 12095

RUBIACEAE

Airosperma aff. *ramuense* Laut. & K. Schum., WT 11877

Amaracarpus brassii Merr. & Perry, WT 12908

?*Amaracarpus* aff. *grandifolius* Valetton, WT 12495

Antirbea sp., (possibly) *megacarpa* Merr. & Perry, SR, Pio; cf. S&C 4293, det. Darwin
Argostenma bryophilum K. Schum., AM 513; WT 11132, 11150

Argostenma callitrichum Valetton, WT 12364, 12422

- Canthium* aff. *cymigerum* (Valeton) B.L. Burtt, WT 11868, 12128, 12737, not the species
- Canthium* cf. *longifolium* (Valeton) Merr. & Perry, WT 12106-R
- Diplospora* sp., WT 12934; also diff. sp. in S&C 4233, Gulf
- Dolicholobium gertrudis* K. Schum., WT 12110, 12498
- Dolicholobium oxylum* K. Schum., WT 11965
- Gardenia hansemannii* K. Schum., SR, Pio; cf. C&S 768
- Gardenia lamingtonii* F.M. Bailey, SR, Haia; cf. S&C 4388, det. Leiden
- Gardenia pallens* Merr. & Perry, WT 12399, 12447, 12479, 12829
- Hedyotis auricularia* L., WT 12666
- Hedyotis schlechteri* (Valeton) Merr. & Perry, WT 11820
- Hydnophytum radicans* Becc., LAE 61087, Purari R., det. Leiden
- Hydnophytum terrestri* Huxley & Jebb, or aff., WT 12587, 12831
- Ixora leptopus* Valeton, or aff., WT 11926
- Ixora leptopus* var. *moszkowskii* Brem., WT 11936
- Lasiaanthus chlorocarpus* K. Schum., or aff., WT 12410, 12734
- Lasiaanthus tomentosus* Bl., WT 12158, 12220, 12732
- Lasiaanthus* (closest to) *tomentosus* Bl., WT 12885, 12894
- Maschalodesme arborea* K. Schum. & Laut., or aff., WT 11213; = *M. simplex* Merr. & Perry
- Mastixiodendron pachyclados* (K. Schum.) Melch., SR; cf. S&C 4278, Gulf D., det. Darwin
- Morinda citrifolia* L., C&S 821, E. Purari, det. Gideon
- Morinda umbellata* L. var. *papuana* Valeton, WT 12058
- Mussaenda bevanii* Ev.M., AM 214, 379; GW 723, det. Gideon
- Mussaenda ferruginea* K. Schum., WT 12049
- Mussaenda oreadam* Wernh., WT 12615, det. Gideon
- Mussaenda scratchleyi* Wernh., SR; cf. S&C 4238, 4306, det. Gideon
- Myrcetia javanica* (Bl.) Reinw. ex Korth., WT 11182, 11221
- Myrmecodia platytyra* Becc. subsp. *platytyra*, WT 11193
- Myrmecodia* sp., SR, Maimafu near clinic, not *platytyra*
- Naucllea orientalis* L., GW 803, det. GW
- Neonaucllea acuminata* Ridsd., WT 12055
- Neonaucllea gordoniana* (F.M. Bailey) Ridsd., WT 12462
- Neonaucllea* cf. *perspicinervis* Merr. & Perry, WT 11951
- Opbiorrhiza* aff. *amoena* Valeton, WT 11271, 12088
- Opbiorrhiza* aff. *?debruyinii* Valeton, WT 12010, 12084, 12246-B
- Opbiorrhiza tenelliflora* Valeton, WT 11149
- Opbiorrhiza* sp., unplaced aff., WT 12411
- Pachystylus guelcherianus* K. Schum., AM 541; WT 12160, 12721
- Psychotria amplithyrsa* Valeton, WT 12099, 12900
- Psychotria* aff. *amplithyrsa* Valeton, WT 12028, vining, not the sp., not in Valeton
- Psychotria* cf. *chrysantha* Merr. & Perry, 'micralabastra group', WT 12070, 12102, 12891, keys to fork 44
- Psychotria diuensis* Merr. & Perry, WT 12343
- Psychotria* cf. *bollandiae* Valeton, WT 12014
- Psychotria leonardii* Merr. & Perry, or aff., WT 12960
- Psychotria* aff. *leptothyrsa* Miq., WT 12662, best result on key, not the sp.
- Psychotria micralabastra* (Laut. & K. Schum.) Valeton, LAE 61167, Purari River, det. Sohmer
- Psychotria multicostata* Valeton, WT 11152
- Psychotria myrmecophila* Laut. & K. Schum., LAE 66280, Wabo dam, det. Sohmer
- Psychotria olivacea* Valeton, WT 11765; cf. also S&C 4317, Gulf
- Psychotria* aff. *polita* Valeton, WT 12397
- Psychotria purariensis* Sohmer, LAE 66298, 66349, det. Sohmer
- Psychotria ramadecumbens* Sohmer, WT 12122, 12904
- Psychotria* cf. *ramulosa* Merr. & Perry, 'micrococca group', WT 12035, keys to 77-78, stipule *ramulosa*

Psychotria sphaerophylla Valetton, WT 11678.
12979

Psychotria valettoniana Sohmer, WT 12817.
12843, 12893

Psychotria womersleyi Sohmer, WT 12028.
12056

Psychotria sp. nov., aff. *boucroffii* Takeuchi,
WT 12130, 12602-B, 12920

Psychotria sp., unplaced aff., WT 12706

'*Randia*' *decora* Valetton, WT 11915, gen-
us name is problematic

'*Randia*' *schumanniana* Merr. & Perry, WT
11122

'*Randia*' *sessilis* F.v.M., WT 11917

Rhadinopus papuana S. Moore, WT 11630

Tarenna buruensis (Miq.) Valetton, WT 11684

Timonius belensis Merr. & Perry, AM 415:
WT 12961

Timonius grandifolius Valetton, WT 11925.
11236

Timonius timon (Spreng.) Merr., GW 758

Timonius trichanthus Merr. & Perry, WT
12187, 12548, 12808

Timonius sp., '*laevigatus-pulposus* group', WT
12352

Uncaria lanosa Wall. var. *appendiculata*
(Benth.) Ridsd., AM 378; WT 11199

Uncaria nervosa Elmer, WT 12993

Urophyllum aff. '*britannicum* Wernh., WT
11680

Versteegia minor Valetton, WT 11188, 11930

Wendlandia paniculata (Roxb.) DC., AM
514, 532, 553; WT 11252

genus indet., WT 12926, monospermous shrub

RUTACEAE

Acronychia sp., SR, Haia

Euodia hortensis J.R. & G. Forst., WT 12490.
12497-B

Melicope denhamii (Seem.) T. Hartley, or aff.,
WT 12280, 12636

Melicope grandifolia B.L. Burtt, or aff., WT
11671

Melicope (probably) *nucronata* Merr. & Perry,
SR, upper Maimafu

Melicope cf. *nova-guineensis* Valeron, WT
12212, keys to here but can't confirm

Melicope sp., as *Euodia* §§ Coriaceae, SR;
cf. S&C 4704, Gulf

Flindersia amboinensis Poir., SR; cf. S&C
4656, Gulf, det. Leiden

Flindersia sp., (possibly) *laevicarpa* C.T.

White & Francis, SR, Haia-Pio

Halfordia drupifera Ev.M. Laut., WT 11857

Lunasia amara Blanco var. *amara*, WT s.n.

Micromelum minutum (Forst. f.) W. & A.,
SR; cf. S&C 4542; C&S 1003, Gulf

Tetractomia tetrandrum (Roxb.) Merr., WT
12285, 12594

Wenzelia tenuifolia Swingle, WT 12958

Zantboxylum conspersipunctatum Merr. & Perry,
WT 12465

Zantboxylum spp., SR, Haia-Pio

(possibly) *nitidum* (Roxb.) DC., S&C 4246,
Gulf, det. Streimann

(possibly) *ovalifolium* Wight, C&S 1019, Gulf

SABIACEAE

Meliosma pinnata (Roxb.) Maxim. ssp. *humilis*
(Merr. & Perry) Beus., SR, upper Maimafu

Meliosma pinnata (Roxb.) Maxim. ssp.
macrophylla (Merr.) Beus., WT 11190.
12085

Sabia pauciflora Bl., WT 12226, 12959.
12976

SANTALACEAE

Cladomyza aff. *uncinata* Danser, WT 12359,
keys to *uncinata* but not the sp.

Dendromyza reinwardtiana (Bl.) Danser, WT
12348

Dendrotrophe amorpha Stauffer, WT 11856

Scleropyrum aurantiacum (Laut. & K. Schum.)
Pilg., AM 679; WT 11253, 11707

SAPINDACEAE

Alectryon myrmecophilus Leenh., WT 12746

Allophylus cobbe (L.) Rauschel, SR, Pio;
cf. S&C 4680, det. Leiden

Cupaniopsis macropetala Radlk., WT 11146

Cupaniopsis platycarpa Radlk., ID based on
fruits on ground, Haia

Cupaniopsis rhytidocarpa Adema, WT 12864

Dictyonera obtusa Bl., WT 11201

Dodonaea angustifolia L.f., WT 12418

Guioa mollincula Radlk., or aff., WT 12664.
12995

Guioa subsericea Radlk., WT 12276, 12283

Harpullia arborea (Blanco) Radlk., SR; cf.
S&C 4641, Gulf

Harpullia camptonera Radlk., WT 11889

Harpullia cf. *camptonera* Radlk., WT 12723,
possibly *H. cupanioides*

Harpullia longipetala Leenh., LAE 61175,
Purari R., det. Leiden

Harpullia petiolaris Radlk. (close to) subsp.
petiolaris, WT 12922

Harpullia sp., (probably) *raniflora* Radlk.,
SR, Haia-Pio

Jagera javanica (Bl.) Kalkman ssp. *javanica*,
SR, Haia

Lepidopetalum xylocarpum Radlk., WT 11950,
11988, 11989

Lepisanthes senegalensis Leenh., SR, Pio; cf.
S&C 4337, det. Leiden

Miscobarpus largifolius Radlk., AM 597

Miscobarpus pyriformis (F.v.M.) Radlk. subsp.
retusus (Radlk.) R.W. Ham, WT 12249,
12443

Miscobarpus sp., WT 12589

Pometia pinnata Forst., WT s.n.

Sarcotechia crispata Welzen, WT 11885
genus indet., WT 12413, 12694, 12784;
alate rachis

SAPOTACEAE

Pouteria anteridifera (C.T. White & Francis)
Baehni, AM 221

SAXIFERAGACEAE

Quintinia sp., SR, upper Maimafu

SOLANACEAE

Capsicum annuum L., SR, cultivated Haia
& Maimafu

Lycopersicon esculentum Mill., SR, cultivated,
also as *L. lycopersicon*

Nicotiana tabacum L., SR, cultivated

Physalis peruviana L., WT 12301

Solanum americanum Mill., WT 12015

Solanum anfractum Symon, WT 12912,
12928

Solanum biflorum Lour., WT 12508, 12688

Solanum cladotrichotum Bitter, WT 12379

Solanum cf. *dallmannianum* Warb., WT
12705; possibly *S. ricanolabastrum*

Solanum dendropilosum Symon, WT 11854,
det. Symon

Solanum donaldianum Gaud., SR, Pio; cf. S&C
4244, det. Symon

Solanum oliverianum K. Schum. & Laur.,
C&S 848, Purari, det. Symon

Solanum peranomalon Wernh., WT 11204,
conf. Symon

Solanum pustulatum Symon, WT 11704,
11804, conf. Symon

Solanum cf. *pustulatum* Symon, or aff., WT
12085; does not key out

Solanum torvoidenum Merr. & Perry, WT 12549

Solanum sp., (possibly) *leptacanthum* Merr. &
Perry, cf. C&S 714; S&C 4625, det. Symon

SPHENOSTEMONACEAE

Sphenostemon papuana (Laut.) Steen. &
Erdtman, WT 12308, 12444

STAPHYLEACEAE

Turpinia pentandra (Schltr.) v.d. Linden, AM
474; WT 11858, 12119, 12432, 12478

STERCULIACEAE

Brachybiton carruthersii F.v.M., or *B.*
velutinosus Kosterm., WT 12021

Commersonia bartramia (L.) Merr., SR, Haia

Melochia odorata L.f., WT s.n., partial sheet

Pterocymbium beccarii K. Schum., C&S 770:
WT s.n., carpological coll.

Pterygota borsfieldii (R. Br.) Kosterm., SR, Haia

Sterculia ampla Bak. f., WT 11186, 12056

Sterculia gilva Miq., or aff., WT 12814

Sterculia macrophylla Vent., WT 11984

Sterculia monticola Mildbr. var. *laxiflora* Tantra,
WT 12148, 12647

Sterculia schumanniana (Laur.) Mildbr., SR,
Haia

Sterculia shillinglawii F.v.M. var. *shillinglawii*,
WT s.n., partial sheet

Sterculia urceolata J. Smith, S&C 4467, E.
Purari R., det. Tantra

STYRACACEAE

Bruinsmia styracoides Boerl. & Koorders, WT
12423

Stryx argrege (Lour.) G. Don, SR, Pio &
lower Maimafu

SYMPLOCACEAE

Symplocos cochinchinensis (Lour.) S. Moore
ssp. *leptophylla* (Brand) Nooteb., AM 659:
WT 11233

THEACEAE

Adinaudra forbesii Bak. f., WT 12120

Eurya aff. *kauebirai* Kobuski, WT 11848;
keys to here but leaf not crenate

Eurya tigang K. Schum. & Laur., WT 12063,
12299

Gordonia papuana Kobuski, WT 12767
Ternstroemia britteniana F.v.M., WT 12405
Ternstroemia cherryi (F.M. Bail.) Merr., WT s.n.

THYMELAEACEAE

Phaleria macrocarpa (Scheffer) Boerl., SR,
 Haia; cf. LAE 61132, Purari R.
Phaleria pilistyla Stevens, WT 12069
Phaleria sogerensis S. Moore, WT 11808,
 11888, 12182, 12659
Phaleria cf. *sogerensis* S. Moore, WT 12786

TILIACEAE

Grewia aff. *brassii* Burret, WT 13017
Micros cf. *grandiflora* Burret, WT 11903,
 12004
Micros tetrasperma Merr. & Perry, WT 11682
Trichospermum tripyxis (K. Schum.) Kosterm.,
 WT 12366, 12743
Triunfetta sp., 'nigricans-pilosa group', WT
 12396

TRIMENIACEAE

Trimenia papuana Ridl., WT 12857

ULMACEAE

Celtis hildebrandii Soepadmo, WT 12095
Celtis sp., 'latifolia-philippensis group', WT
 s.n., sterile
Gironiera (probably) *hirta* Ridl., SR, Haia
Parasponia rigida Merr. & Perry, WT 12206
Parasponia rugosa Bl., WT 12080, 12260
Trema cannabina Lour., WT 11838
Trema orientalis (L.) Bl., SR, Haia

URTICACEAE

Cypholobus aff. *decipiens* Winkler, WT 12384
Cypholobus cf. *latifolius* (Bl.) Wedd., WT
 11728
Cypholobus cf. *pachycarpus* Winkler, WT
 11750
Cypholobus rotundifolius Winkler, or aff.,
 WT 12165, 12188
Cypholobus cf. *velutinus* Winkler, WT 12823;
 keys to *velutinus* on Winkler
Debregeasia longifolia (Burm. f.) Wedd., WT
 12577
Debregeasia sp., WT 12207, 12846, 12868
Dendrocnide peltata (Bl.) Chew, LAE 61082,
 Purari R.
Dendrocnide ternatensis (Miq.) Chew, WT
 12019

Elatostema beccarii Schröter, WT 12031,
 12152

Elatostema blechnoides Ridl., or aff., WT
 12153; ?=*E. radicanle* H. Winkler
Elatostema cf. *macrophyllum* Brongn., WT
 11229, 12090, 12246-A
Elatostema aff. *macrophyllum* Brongn., WT
 12584

Elatostema mongiense Laur., WT 12270
Elatostema morobense Perry, WT 12380
Elatostema cf. *novoguineense* Warb., WT 12089
Elatostema polioleum Hall. f., SR, Maimafu
Elatostema tridens Perry, WT 12385
Laportea decumana (Roxb.) Wedd., WT
 12936

Leucosyke capitellata (Poir.) Wedd., SR, Pio;
 or related species
Nothocnide mollissima (Bl.) Chew, WT 12389
Nothocnide repanda (Bl.) Bl., S&C 4501; WT
 11746

Oreocnide trinervis (Bl.) Miq., AM 527, 618;
 WT 11177, 12681

Pilea candata Winkler, WT 12254

Pilea cuneata Winkler, sensu Chew, WT
 12279

Pilea effusa Winkler, WT 12175, 12529

Pilea papuana Winkler, WT 12267

Pilea venulosa Bl., WT 12117

Pipturus argenteus (Forst. f.) Wedd., WT
 11806, 12520, 12627

Ponzozia sp., SR, Maimafu

Procris frutescens (Winkler) Schröter, WT
 12096

Procris pedunculata (Forst.) Wedd., WT
 12039

Procris cf. *pedunculata* (Forst.) Wedd., WT
 12367

VERBENACEAE

Callicarpa longifolia Lamk., WT 12412,
 12785

Callicarpa pedunculata R. Br., WT 12003
Clerodendrum brassii Beer & H.J. Lam, AM
 217; WT 11227

Clerodendrum barnuanum Miq., WT 11297

Clerodendrum inerme (L.) Gaertn., SR, Pio;
 cf. S&C 4474

Clerodendrum ?sp. nov., WT 12209; no result
 on Lam, no LAE match

- Faradaya splendida* F.v.M., SR, Pio; cf. C&S 853, Purari
Geunsia pentandra (Roxb.) Merr., WT 12425
Gmelina dalrympleana (F.v.M.) H.J. Lam, SR, Pio
Premna serratifolia L., SR; cf. C&S 818, E. Purari
Teijsmannidendron abernatum (Merr.) Bakh., WT s.n.
Vitex cofassus Reinw. ex Bl., SR; cf. S&C 4497, Purari R.

VITACEAE

- Ampelocissus* sp., SR, Haia
Cayratia japonica (Thunb.) Gagn., WT 11712
Cayratia (close to) *japonica* (Thunb.) Gagn., WT 12108
Cayratia sp., cf. C&S 855, Purari, indet., 'trifolia facies'
Cissus aristata Bl., WT 11759
Cissus sp., aff. *aristata* Bl., WT 12094, 12985; not the species
Cissus bauerleri Planch., or aff., SR, Haia; cf. S&C 4505
Notocissus penninervis (F.v.M.) Lattiff, LAE 61100, Purari R., det. Leiden
Tetrastigma sp., WT 12456, 12645

WINTERACEAE

- Zygogynum* aff. ?*glaucum* (A.C. Smith) Vink, WT 11268

MONOCOTS

AGAVACEAE

- Cordyline* cf. *fruticosa* (L.) A. Chev., WT 12574-B

AMARYLLIDACEAE

- Crinum asiaticum* L., LAE 61096, Purari R., det. Leiden list
Curculigo capitulata (Lour.) Kuntze, WT 11688
Curculigo cf. *capitulata* (Lour.) Kuntze, WT 12789; leaves emarginate, inflorescence erect

ARACEAE

- Alocasia laucifolia* Engler, SR, Pio
Alocasia macrorrhizos (L.) G. Don, WT 11296
Alocasia nicolsonii A. Hay, WT 12202

Alocasia cf. *nicolsonii* A. Hay, WT 12145, 12859

Amorphoballus galbra F.M. Bailey, WT 11228, 11786

Amydrium zippelianum (Schott) Nicolson, WT 12048

Colocasia esculenta (L.) Schott, SR, cultivated
Cryptocoryne ciliata (Roxb.) Schott, S&C 4449, E. Purari R., det. N. Jacobsen
Cyrtosperma cf. *cuspidatipatum* Alderw., WT 11208

Epipremnum pinnatum (L.) Engl., AM 600

Holochlanys beccarii Engl., WT 12097

Potbois falcifolius Engl. & K. Krause, AM 509, det. A. Hay

ARECACEAE (PALMAE)

- Areca catechu* L., SR, cultivated
Calamus bollrungii Becc., WT s.n.
Caryota rumbiana Martelli, WT 12665
Cocos nucifera L., SR, cultivated
Metroxylon sagu Rottb., SR, Haia

COMMELINACEAE

- Aneilema* cf. *acuminatum* R. Br., LAE 66362, Wabo
Commelina diffusa Burm. f., SR, Haia
Floscopa scandens Lour., LAE 66360, Wabo
Forrestia mollissima (Bl.) Koords., s. lat., WT 11863, = ?*Amischatolype*
Pollia thyrsoiflora (Bl.) Steud., WT 11784

COSTACEAE

- Castus speciosus* (Koen.) J.E. Sm., SR, Haia
Tapinobilos anamassae (Hassk.) K. Schum., WT 11859, det. Gideon
Tapinobilos brassii Gideon, pers. comm. Gideon
Tapinobilos versteegii Valeton, AM 596, WT 11156, 11179, det. Gideon

CYPERACEAE

- Cyperus* cf. *nutans* Vahl var. *eleusinoïdes* (Kunth) Haines, LAE 66361, Wabo, det. Leiden
Paramapania parvibractea (Clarke) Uittien, LAE 66307, Wabo dam site, det. Henry
Scleria polycarpa Boeck., WT 11747
Scleria terrestris (L.) Fass., WT 12686, 12787

DIOSCOREACEAE

- Dioscorea bulbifera* L., WT 13006

- Dioscorea* (probably *esculenta* (Lour.) Burk.,
SR, Pio & lower Maimafu
Dioscorea cf. *nummularia* Lamk., WT 11768,
12677

FLAGELLARIACEAE

- Flagellaria indica* L., WT 12216

GEITONOPLESIACEAE

- Geitonoplesium cymosum* (R. Br.) Hook., WT
12571

HELICONIACEAE

- Heliconia papuana* W.J. Kress, WT 11882

IRIDACEAE

- Tritonia x crocosmiflora* (Lemoine) Nichols,
WT 12807

LILIACEAE

- Dianella ensifolia* (L.) DC., WT 12287,
12482
Dianella javanica (Bl.) Kunth, or aff., WT
12658

MUSACEAE

- Ensete glaucum* (Roxb.) Cheesman, SR,
common giant herb, Maimafu
Musa maclayi Ev.M., WT *s.n.*

ORCHIDACEAE (dets. N.H.S. Howcroft)

- Bulbophyllum antennatum* Schltr., He 38
Bulbophyllum cf. *cavibulbum* J.J. Sm., He 8
Bulbophyllum intersitum J.J. Vermeulen, He 1
Bulbophyllum lepanthiflorum Schltr., Ha 1
Bulbophyllum (close to) *nematopodium*, He
33
Bulbophyllum pidacanthum J.J. Vermeulen,
He 37
Bulbophyllum trifilum subsp. *trifilum* J.J. Sm.,
WT 12810, 12903, 12975
Bulbophyllum wakoi N.H.S. Howcroft, type
coll.
Calanthe ventrilabrum Rchb. f., He 21
Calanthe werneri Schltr., WT 11133
Coelogyne beccarii Rchb. f., WT 12774
Coelogyne fragrans Schltr., WT 12536, 12579,
12824
Coelogyne cf. *fragrans* Schltr., He 13, 30;
Ha 8
Corymborkis veratrifolia (Reinw.) Bl., WT
11240
Cystorchis cf. *dentifera* Schltr., WT 11165
Dendrobium bulbophyllioides Schltr., WT 12825

- Dendrobium* cf. *dillonianum*, §Grastidium,
WT 12872, 12899; ?authority
Dendrobium finisterrae Schltr., WT 12967
Dendrobium glebulosum Schltr., WT 12812
Dendrobium cf. *obtusipetalum* J.J. Sm., §
Calyptrochilus, WT 12290, 12372
Dendrobium pleianthum Schltr., He 33
Dendrobium pseudoglomeratum Reeve and J.
Woods, WT 12673
Dendrobium pseudopeloricum J.J. Sm., WT
12371
Dendrobium rupestre J.J. Sm., He 17
Dendrobium aff. *subclausum* Rolfe, §
Calyptrochilus, WT 12773
Dendrobium torricellianum Krzl., §
Oxystophyllum, WT 12357
Dendrobium aff. *vexillarius* J.J. Sm., §
Oxyglossum, WT 12398
Dendrobium sp. A, § Calyptrochilus, He
16, 28
Dendrobium sp. B, § Grastidium (mixed
coll.), WT 12712
Dendrobium sp. C, § Grastidium, WT 12986
Dendrobium longifolium Rchb. f., He 2; WT
12134, 12229, 12517, 12988
Diplocaulobium chrysotropis Schltr., WT
12135, 12298
Diplocaulobium sp., WT 12856
Dipodium pandanum Bail., WT 12603; LAE
66276, Wabo dam site
Epiblastus sp., WT 12045
Eria imbricata J.J. Sm., He 36
Eucosia papuana Schltr., WT 12136
Glonera sp., WT 12376
Habenaria or *Peristylus*, sp. A, WT 12101
Habenaria or *Peristylus*, sp. B, WT 12195
Habenaria or *Peristylus*, sp. C, WT 12484
Habenaria or *Peristylus*, sp. D, WT 12586
Liparis caespitosa Lindl., WT 12327
Liparis aff. *gibbosa* Finet, He 25
Liparis sp., § Distichum, WT 12714
Mediocalcar quadrifolium Schuipman, WT
12855
Mediocalcar sp. A, WT 12446
Mediocalcar sp. B, WT 12815
Neuwiedia veratrifolia Bl., WT 11770
Octarhena angraecoides Schltr., He 12
Peristylus dolichocaulon (Schltr.) Schltr., WT
11284

- Phaius montanus* Schltr., WT 12233
Phaius cf. *montanus* Schltr., WT 12760, 12826
Phaius sp., WT 12286
Phreatia ?caulescens Ames, WT 12297
Phreatia elata Schltr., WT 12933
Phreatia sp. A, WT 12794
Phreatia sp. B, WT 12816
Oberonia sp., WT 12288
Robiquetia cf. *mooreana* (Rolfe) J.J. Sm., WT 11127
Spathoglottis paulinae E.v.M., WT 12289
Spathoglottis plicata Krzl., WT 11286
Spathoglottis plicata Bl. subsp. *puberula* N.H.S. Howcroft, WT 11207
Vanilla wariensis Schltr., WT 11842
Vrydagzynea cf. *albostrigata* Schltr., WT 12383
Vrydagzynea cf. *albostrigata* Schltr., or *salomonensis* Schltr., WT 12251
Vrydagzynea sp., WT 12341
- PANDANACEAE**
Freycinetia angustissima Ridl., SR of common climber
Freycinetia aff. ?*lagenicarpa* Warb., WT 11761
Freycinetia mavanitfolia Hemsl., WT 11955
Pandanus leptocarpus Martelli, S&C 4493, Purari, cited by Stone (1987)
Pandanus spp., WT s.n.
- POACEAE (GRAMINEAE)**
Apluda nutica L., SR; cf. C&S 1065
Centotheca latifolia (Osb.) Trin., WT 11717
Chrysopogon aciculatus (Retz.) Trin., SR; cf. S&C 4593, det. collectors
Coix lachryma-jobi L., WT 12019
Cyrtococcum accrescens (Trin.) Stapf, WT 12639
Garnotia stricta Brongn. var. *longiseta* Hack., WT 12470
Ichnanthus vicinus (E.M. Bailey) Merr., WT 12717
Imperata conferta (Presl) Ohwi, WT 12408
Imperata cylindrica (L.) P. Beauv., WT 12599
Isachne albomarginata Jansen, WT 12054, 12059, 12064
Isachne nyosotis Nees, WT 12565
Nastus longispicula Holttum, WT 12600
Oplismenus birtellus (L.) P. Beauv., WT 12002, 12715
Pennisetum sp., (probably) *macrostachyum* (Brongn.) Trin., SR, Maimafu
Saccharum edule Hassk., SR, cultivated
Saccharum officinarum L., SR, cultivated
Saccharum sp., 'robustum - spontaneum complex', WT 12597
Scrotobloea urceolata (Roxb.) Judziewicz, SR
Setaria palmifolia (Koen.) Stapf, WT 12006
Zea mays L., SR, cultivated
- TRIURIDACEAE**
Sciaphila densiflora Schltr., LAE 66347, det. Leiden list
Sciaphila tenella Bl., LAE 66268, Wabo dam site, det. Leiden
- ZINGIBERACEAE**
Alpinia wernerii Valeton, § *Pycnanthus*, WT 11787
Alpinia sp., § *Dieramalpinia*, WT 11831
Curcuma australasica Hook. f., AM 382: WT 11295
Etilingera dekokkii, or *E. versteegii*, WT 11705; need flower color
Hornstedtia scottiana (E.v.M.) K. Schum., WT s.n.
Phrynium aff. *pedunculatum* Warburg, WT 11880
Pleuranthodium macropycnanthum (Valeton) R.M. Smith, WT 11136
Riedelia corallina Valeton, WT 11141
Riedelia macrantha K. Schum., WT 11173

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